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THE POLITICAL ECONOMY OF AMERICAN POST-WAR HIGHER EDUCATION:  
AN ANALYSIS OF THE MILITARY-UNIVERSITY COMPLEX

by



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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "The Political Economy of American Post-War Higher Education: An Analysis of the Military-University Complex" submitted by Kenneth E. Luckhardt in partial fulfilment of the requirements for the degree of Master of Arts.



## ABSTRACT

The American political economy is one of State monopoly capitalism, dominated by the large corporation and the propertied class which owns and controls it. These corporations have, in the post-World War II era, become heavily committed to military production for their economic viability, thus the "Military-Industrial Complex". The role of the State in this structural order is to protect and safeguard the vested interests of this ruling capitalist class, especially through the military contracts of the defense sector.

To maintain this Military-Industrial Complex, there must be continuous advances in science and technology. These advances are realized through the research and development carried out by universities and their personnel, or by spinoff companies and non-profit research institutes established by academics. The "innovation" industry and the "knowledge" industry become institutionally merged, the result being that universities comprise a third vital component of the structural order of State monopoly capitalism. As the large, "elite" universities, like the monopoly corporations, perform under contract with the State military apparatus, we can speak of the Military-Industrial-University Complex, or simply the Military-University network.

The primary role of universities in a monopoly capitalist society is to provide the skilled labor, both technical and managerial, and the products of that labor, to serve the interests of the corporate ruling class. This institutional collusion is reflected in two sets of relationships: the State and the university, and the private foundation





and the university. In turn, each of these relationships consists of three important variables. First, both the State and the foundation invest large amounts of capital into universities; this is termed investment inputs. Second, these investments carry with them demands upon the types of research, or production outputs, performed by universities. Finally, the Military-University network is maintained through the interlocking directorates, or inter-institutional flow of personnel, that prevail between the State sector, the private sector (corporations and foundations), and the universities.

Michigan State University and Columbia University are examples of this Military-University network. Brief analyses of these two case studies suggest the importance of the ideology, or world view, shared by many academics. This ideology is consistent with the interests of the capitalist class and serves to support the structural status quo. The operations of the Military-University network show that universities can be no freer than the society of which they are a part.



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## CHAPTER ONE

### TOWARD A MODEL OF THE AMERICAN POLITICAL ECONOMY AND ITS UNIVERSITIES

You may say that the government has taken over the American universities. In a sense this is true; at the same time the universities have taken over the central government, and the whole nature and structure of American government has been transformed.... The universities themselves are an essential component of this new machine. The system depends on free and frequent interchange of staff between the government, business and the academic world. (Bowden 1965:45-62; emphasis added)

In the past few years there has been a growing concern over the institutional relationships between the State, the corporation economy, and the universities, or what has been termed the Military-Industrial-University complex. Many pages have been filled in an attempt to explain the social structural relationships between the military and industrial segments of American society; far fewer attempts have been made to deal with the importance of the university in this institutional trinity. This thesis proposes to undertake such a structural analysis of universities to place in proper perspective an answer to the increasingly voiced question--what is the role of the university in relation to the military and industrial spheres in post-World War II American society?

There are at least three possible areas of investigation:

#### (1) Historical Origin

--What was the relationship between the etiology of this institutional complex and the American political economy?



--Under what specific historical conditions did this Military-Industrial-University complex arise?

(2) System Maintenance

--Are certain structural variables (such as capital investment and interlocking directorates) sufficient to maintain this network?

--What types of activities do universities perform that assure their involvement with the State and monopoly corporate sectors?

(3) Motivational Factors

--What factors might influence particular academics to enter into the activities of the Military-Industrial-University complex?

--Is a certain world view or set of interests a prerequisite to individual involvement?

--How important are factors such as class background and self-interest in determining individual involvement?

All three of these possible areas of investigation bear directly on the initial question stated above. The emphasis in this thesis will be placed on the first two concerns--that of historical origin and system maintenance. This is not to suggest that psychological questions of individual motivation are necessarily of less importance; obviously they are crucial to a total understanding of the problem. The emphasis on the structural order is merely to suggest that psychological variables can be most effectively dealt with only after the social structural order is examined in detail. The lack of firsthand empirical psychological data is a second reason for the emphasis upon the structural relations. Chapters Two through Four will deal with the historical origin and structural maintenance of this institutional network; Chapter Five will address questions of psychological motivation and ideology.



An Outline of the American Political Economy

To understand the nature and function of institutions of higher learning in American society, the analysis must begin with a general understanding of the political economy of which they are a part. Here political economy refers to the dominant modes of production and the class relations which result from these conditions of production. In a more specific sense the term political economy refers to the set of institutions (economic, political, educational, religious, and legal) and their interrelation in the short-term sense. The political economy of the contemporary United States is one of State monopoly capitalism, within which universities are, in the words of Lord Bowden, "essential components". Why they are "essential components" and how their services have been assured to dominant politico-economic groups in American society requires a brief outline of the workings of State monopoly capitalism.

The basis of power in capitalist societies is related to and derived from ownership or control of surplus capital. The dynamics of those societies organized around a capitalist mode of production are largely determined by the conflict that exists between two classes, the class that owns the means of production and the class that does not. In advanced monopoly capitalist societies that power rests primarily with the giant corporations, described by Baran and Sweezy (1966:52) as "profit maximizers and capital accumulators". That is, to safeguard their position, the owners of corporate capital must continually accumulate greater amounts of surplus capital. Those who do not own the means of production must struggle to maintain their position and standard of living through wages. The historical origin of the monopoly





capitalist mode of production dates back to the latter third of the nineteenth century. Nearly a century later monopoly capitalism and the giant corporations are virtually synonymous.

One central feature of capitalist societies is their necessity for expansion on the domestic and global fronts. The owners of capital must be assured of future surplus capital, which means that they must be guaranteed access to necessary factors of production, such as land, raw materials, and a labor force. Capitalist expansion causes both the extension and consolidation of the markets through which the owners of corporate capital derive their profits and validate their social status. In a monopoly capitalist society such as the United States, the net effect of the processes of expansion, the control of the factors of production, and the capital accumulation is that a relatively small number of corporations dominate the key sectors of the economy. In the words of the economist Carl Kaysen (1960:86),

A few large corporations are of overwhelmingly disproportionate importance in our economy, and especially in certain key sectors of it. Whatever aspect of their economic activity we measure--employment, investment, research and development, military supply--we see the same situation.

Expressing this concentration in quantitative terms, Galbraith (1967: 74-75) notes,

... nothing so characterizes the industrial system as the scale of the modern corporate enterprise. In 1962 the five largest industrial corporations in the United States, which combined assets in excess of \$36 billion, possessed over 12 percent of all assets used in manufacturing. The fifty largest corporations had over a third of all manufacturing assets. The five hundred





largest had well over two-thirds. Corporations with assets in excess of \$10,000,000, some two hundred in all, accounted for about 80 percent of all resources used in manufacturing in the United States. In the mid-1950's, twenty-eight corporations provided approximately 10 percent of all employment in manufacturing, mining and retail and wholesale trade. Twenty-three corporations provided 15 percent of all employment in manufacturing. In the first half of one decade (June 1950-June 1956) a hundred firms received two-thirds by value of all defense contracts; ten firms received one-third. In 1960 four corporations accounted for an estimated 22 percent of all industrial research and development expenditures. Three hundred and eighty-four corporations employing five hundred or more workers accounted for 55 percent of these expenditures; 260,000 firms employing fewer than a thousand accounted for only 7 percent.

One can see from these figures the concentration of capital and labor. This is especially apparent in the defense industries to which we shall refer below. On the domestic scene, one firm extends its fields of operations into many diversified industries, and this expansion and concentration of capital result in the corporate conglomerate.\*

The second and more important means of monopoly capitalist expansion in the past three decades has been through the multinational operations of these corporate conglomerates. The international focus of capitalist production units is a long standing phenomenon, as was evidenced by the global exploits of the merchant capitalists in the sixteenth, seventeenth, and eighteenth centuries. These multinational

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\*For a more detailed account of domestic concentration and conglomerate diversification, see Baran and Sweezy (1966), Fortune Magazine (1970), Kolko (1962), and Pelton (1969).



operations take on added significance, however, in the contemporary era. The largest of American industrial corporations gain an increasing proportion of their total profits from foreign investment. These foreign investments, it should be pointed out, are not restricted to the "underdeveloped" nations of the Third World but they also extend into the advanced capitalist nations of Western Europe, Canada, and Japan. Phillips (1969:187-188) estimates that approximately half of the 500 largest U.S.-based industrial corporations have overseas investments in plants, mines, or oil fields, approaching \$50 billion. Some of these companies have over a third of their assets abroad, and even more derive their total income from foreign sales.

The nature of these foreign operations is equally important. Corporate investment in Third World nations has tended to be in the extractive industries, for the purpose of procuring the raw materials necessary for monopoly capitalist production in the metropolitan nations. This frequently causes direct economic and political control to be exerted by the "developed" capitalist nations over the "underdeveloped" satellite nations of Africa, Asia, and Latin America. Such financial arrangements as international banking organizations and foreign aid programs directed by the capitalist State become necessary to maintain capitalist control in these areas.

American foreign investment in other advanced capitalist nations has tended to be in the non-extractive industries. For example, in 1964, 64.5 and 74.0 percent of U.S. direct foreign investment in Canada and Europe respectively went into manufacturing, public utilities and trade. According to Magdoff (1969:61-62), three American firms (Esso, General Motors and Ford) account for 40 percent of direct



investment in West Germany, Britain and France. By 1965, 700 of the 1000 largest U.S. companies had subsidiaries or branch-plant operations in Europe. In short, American corporations have a stake in both metropolitan and satellite communities of the "free world empire".\*

In addition to the general and complementary processes of domestic diversification and multinationalism, perhaps the most significant trend in the postwar corporate economy has been the large-scale movement of the monopoly corporations into military production. Military production has served many purposes: (a) the unemployment level has been maintained at relatively low levels as a result of the large numbers of workers employed by defense industries (an estimated 4.1 million jobs in fiscal year 1967); (b) it has assured many of the larger corporations the super-profits derived from production contracts with the State (e.g., Department of Defense); and (c) it has served as the major means of advancing the capitalist mode of production through the research and development, or innovation, industry. The result of this permanent war economy is that the largest industrial corporations are usually the largest defense industries, and they are dependent upon the State-military contracts for their economic survival. In other words, the contracting policies of the Department of Defense further the process of capital accumulation and concentration in

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\*Such a brief sketch of the importance of monopoly capitalist foreign economic activity obviously leaves much unsaid. The outline presented has been filled in by numerous detailed studies. Of particular importance are the following: Balogh (1966), Baran (1957), Baran and Sweezy (1966), Domhoff (1967, 1969), Frank (1967, 1970), Gardner (1969), Horowitz (1969d), Jalee (1968, 1969), Kolko (1969), LaFeber (1963), Magdoff (1969), Oglesby (1969), O'Connor (1970a, b), Phillips (1969), Williams (1969), and Woddis (1967).





the hands of a few dominant corporations which, in turn, subcontract the production to their subsidiaries. The figures cited by Galbraith above suggest the degree of this concentration of defense contracts, and likewise the concentration of profits and labor force.\*

The militarization of American society is a parallel historical problem which had its origins in the New Deal era of the 1930's. Only by studying the progressive militarism of the United States in its historical development is it possible to disprove C. Wright Mills' (1956) idea that militarism results in the "ascendancy" of the military elite in decision-making activities. The situation has been quite the contrary. From the corporate elite's encouragement of military production in the 1930's (as a partial solution to the crisis of unemployment) to the military-industrial ties in the postwar era, the most ardent proponents of militarism have been the corporate civilians. Military men, with a few notable exceptions, have been passive in the major decisions regarding domestic production and foreign policy.\*\*

Any discussion of the American war economy and its militaristic foreign policy leads to the role of the State sector in a monopoly capitalist society. Liberal thinking has created two equally inaccurate views on this matter. The State is seen to be either in

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\*There have been many in depth analyses of the Military-Industrial complex. The most illustrative literature on the workings of monopoly capitalism and militarism includes Baran and Sweezy (1966), Coffin (1964), Donovan (1970), The Guardian (1970), Goulden and Singer (1970), Horowitz (1969d), Kolko (1969), Lapp (1968), Lens (1970), Magdoff (1969), Monthly Review (1970), Nathanson (1969), Swomley (1964), and Thayer (1969).

\*\*A counter-argument to the "military ascendancy" theory proposed by C. Wright Mills in The Power Elite (1956) can be found in Domhoff (1967), Domhoff and Ballard (1968), and Kolko (1969).





conflict with the private sector (dominated by the giant corporation), or it is portrayed as a disinterested or neutral body not consistently representing the interests of any particular socio-economic group. An alternate view regards the State as protector of the corporate business sector and its interests. This argument is based upon Paul Sweezy's (1971:4) suggestion that the capitalist State's primary function is to create conditions favorable to the process of capital accumulation and to remove any obstacles which impede this process. It is this view that will be adopted here.

In practice the State attempts to rationalize the conflicts inherent in the monopoly capitalist society. This relates to conflicts that exist between the owners and non-owners of capital as well as to specific conflicts that emerge within both of these groups. Ralph Miliband (1969:9) in his recent work, The State in Capitalist Society, points to one of the State's most important activities when he notes,

... the state is by far the largest customer of the 'private sector'; and some major industries could not survive in the private sector without the state's custom and without the credits, subsidies and benefactions which it dispenses.

It is in this sense that we speak of State monopoly capitalism. The State and monopoly capitalist sectors are not independent of one another; nor are they in conflict. But, rather, they work in harmony with one another by sharing a world view which promotes stability and maintenance of the particular structural status quo in which they operate. Such a view of the contemporary American political economy does not imply that State intervention is a novel phenomenon. On the contrary, State intervention in the affairs of the economy has often



characterized the development of capitalist societies; this was especially the case during the so-called Progressive Era from 1900 to 1916 in American society.\* The postwar period differs from the earlier periods in the degree and extent of State intervention, particularly with regard to what Miliband (1969:9) terms the "... vast range of social services for which the state in these (monopoly capitalist) societies has come to assume direct or indirect responsibility".

These "social services" are social only in that the production process itself is ultimately social. The vast benefits of the State's policies work to the advantage of private corporate capital, or where this is not directly the case, they do not threaten that capital. The most important of such State activities include: (a) military agreements and arms sales programs with foreign nations; (b) the subsidization of military research and development (which reduces the costs of production for the defense industries); (c) foreign aid programs which assist American capital in penetrating foreign economies; and, most relevant to this thesis, (d) the subsidization of university research and development and the production of a skilled, technical labor force to serve the general needs of monopoly capitalism.

If this unity of interests between the State and the corporate business community has theoretical significance, it must be shown that

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\*An excellent account of the role of the State in serving the interests of corporate capital at the turn of the century has been provided by Gabriel Kolko in his study, The Triumph of Conservatism (1967). Kolko's term "political capitalism" is synonymous with the term "State capitalism" used here. To Kolko (1967:280), the Progressive Era witnessed a synthesis of politics and economics whereby "ultimately businessmen defined the limits of political intervention, and specified its major form and thrust".



those persons who comprise the State system (the government, the administrative bureaucracy, the military, the judiciary, and the representative assemblies) are closely associated with or are themselves holders of private economic power. Without such information, it would be difficult to explain why the State functions in the interests of monopoly capital. Miliband has shown that from 1889 to 1949 businessmen were the single largest occupational group in government cabinets; in these six decades more than 60 percent of cabinet personnel were from the field of business. Similar percentages are suggested for the decade of the 1950's. He argues that businessmen become more involved in government and administration as the State increasingly intervenes in the economic life of the society. This has been the case in American society since 1945. When businessmen move into government service, they not only influence the nature of that state intervention but do so in a manner wholly consistent with their business-oriented ideology.

Miliband (1969:66-67) concludes,

What the evidence conclusively suggests is that in terms of social origin, education and class situation the men who have manned all command positions in the state system have largely, and in many cases overwhelmingly, been drawn from the world of business and property, or from the professional middle classes.... In an epoch when so much is made of democracy, equality, social mobility, classlessness and the rest, it has remained a basic fact of life in advanced capitalist countries that the vast majority of men and women in these countries has been governed, represented, administered, judged, and commanded in war by people drawn from other, economically and socially superior and relatively distant classes.\*

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\*In addition to Miliband (1969), the reader will find James O'Connor's "The Fiscal Crisis of the State" (1970b) highly informative





This, then, is a general overview of State monopoly capitalism, where members of the public sector, either through class origin, occupation, education, ideology, or a combination of all of these factors, generally serve and support the interests of the corporate business community. The question at hand is more specific, namely that of what significance the institutions of higher learning have to the maintenance and perhaps even modification of this structural order. To address this question, it is necessary to develop a model which includes all three institutional spheres--the corporate business community, the State system, and the university--and their interrelationships. What are the structural relationships that prevail between the State and the university, the private sector and the university, and through what mechanisms have these relationships been institutionalized in postwar American society?

In a highly developed capitalist society such as the United States the production process is heavily committed to and largely dependent upon advances in science and technology. These advances in science and technology do not exist in an economic or political vacuum, and, therefore, it is necessary to avoid simplistic notions of technological determinism. The advancement and application of new innovations in the scientific and technical methods of production cannot be separated from the benefits these innovations bring to the owners and controllers of private capital. These changes in production technology are closely tied to the overall productivity and profit maximization by the monopoly corporations. Advances in science and technology, the form

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with regard to questions of fiscal policy in state capitalist societies.





they take, and the uses to which they are put are largely dependent upon the social and class relations of production. The owners of corporate capital require continuous innovations in science and technology by which to enhance their competitive position; and they also require a highly skilled, technical labor force to develop, operate, and manage these advances in the technical means of production.

Institutions of higher education meet both of these needs, and, as a result, the "knowledge industry" comprises a large part of the total "innovation industry". Universities which are committed to revolutionizing the means of production through (a) research and development and (b) social management or social control techniques provide a structural link between Big Business and Big Government. The university itself becomes a de facto corporation, an industry directed toward production (and often marketing) of breakthroughs in science and technology and the training of a skilled labor force. Therefore, the university can be regarded as an "essential component" in the production process of the American political economy. At a higher level of abstraction, it integrates the economic base of the society (the corporation economy) with its political superstructure (the State system).

The thesis to be argued is this: in postwar American society the primary role of certain "elite" universities is to produce a highly skilled, technical and administrative (managerial) labor force, whose knowledge and products can be drawn upon to meet the needs and interests of State monopoly capitalism. Knowledge and the uses to which it is put are to be identified as particular forms of labor power employed in a capital-intensive manner. This is realized through an institutional



collusion of the State system (especially the military sector, which accounts for the largest proportion of the State budget), the corporate business community (as represented by the corporation and private foundation), and the university. Collusion refers to the structural interaction of these three institutional spheres with regard to interests and motives held in common by the participants who serve in a dominant capacity in their respective institutions. This does not preclude the possibility of certain individuals moving from one institutional sphere to another throughout their careers. Indeed, as we shall see below, this is very often the case. On the other hand, because many of the dominant decision-makers in each sphere share a common set of interests, or world view, institutional collusion does not demand that this interchange of personnel always occur. Their common world view is in general terms a commitment to the maintenance of the system of State monopoly capitalism.

The processes or mechanisms which maintain these relationships between the State, the foundation, and the university are very important. Three specific processes (or variables) will be used to demonstrate this collusion.

First, it has already been stated that power in capitalist societies is derived from ownership or control of surplus capital. We also know that universities are financially-dependent institutions; that is to say, they must generate their working capital from either the State (public) sector or the private economic sector. We will begin by analyzing the source and extent of capital investment in universities



by both the State and the private foundations.\* This stimulus of investment in the university will be described as investment input, as seen in Figure 1 (see page 16).

The flow and concentration of capital investment in institutions of higher education in the United States allows us to document the extreme inequalities among these institutions. Just as a small number of giant corporations dominates key sectors of the economy, so too does a minority of universities receive a disproportionate amount of the funds allocated to higher education by the State and private foundations. It should not be expected that all universities and colleges are equally involved in the Military-Industrial-University complex. Those "elite" universities which receive the largest percentage of public and private subsidization constitute the pinnacle of American higher education.

Secondly, we know that capital is not invested at random, that investment carries with it demands upon the nature of the production to be carried out. Therefore, we can describe the types of products, both material and ideological, that result from the State (and especially Defense) and foundation investment in these "elite" universities. In this way it is possible to see the importance of the products of the university community to the State and corporate sectors. These results of academic labor will be described as production outputs in Figure 1.

Third, it is important to document to the extent possible the

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\*Suggestions that foundations are "philanthropic" in their activities are regarded as terminological and ideological illusions. By looking at the allocations of both the state and foundations as capital investments, we can avoid this misconception and thus understand more clearly the role of the university in the larger political economy.





THE STATE

THE PRIVATE SECTOR

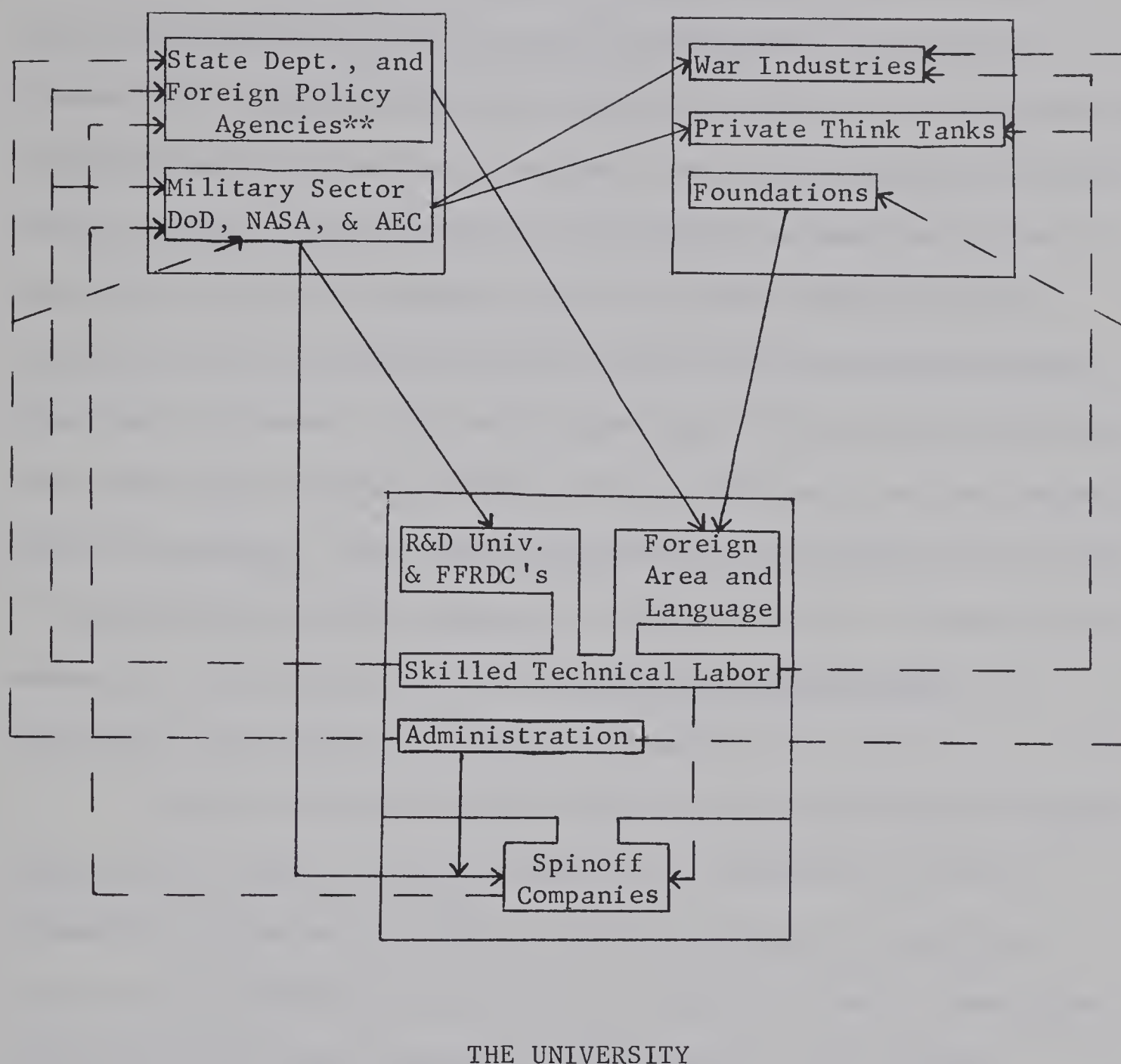


FIGURE 1. MODEL OF STATE MONOPOLY CAPITALISM AND ITS UNIVERSITIES.\*

\*Investment input is represented by solid lines going from both State and private sectors to universities and spinoff companies started by academic personnel. Production output and the interlocking directorates are represented by broken lines going from segments of the university community to both the State and private sectors. The spinoff company is diagrammed as part of the university community since most of these companies have been initiated by academic entrepreneurs.

\*\*Such foreign policy agencies would include the National Security Council, the Council on Foreign Relations, etc.





large number of interlocking directorates that encompass all three institutional spheres. These interlocking directorates, or the inter-institutional flow of personnel, can operate in many ways. Academics and administrators move from the university to the corporation/foundation and State sectors; corporate businessmen dominate the State decision-making activities and are the largest occupational group in university boards of trustees; similarly, former public servants frequently move to corporate and university boards and directorships upon their retirement. The major focus here will be on the interchange that takes place between the State and the university and the foundation and the university. This flow of personnel is considered to be crucial to the maintenance of the structural network of State, corporation, and university. This third variable, interlocking directorates, is diagrammed with production outputs in Figure 1.

While the first variable (that of investment inputs) suggests correctly the passivity and dependence of universities and their personnel, the second and third variables (production outputs and interlocking directorates) point to the creative roles of those same universities and their personnel. The question is not whether universities are autonomous institutions, but rather how they employ the autonomy which does exist. However great that autonomy, it is performed within a given economic, political and social context which cannot but affect the behavior of the academic community. As Miliband (1969:254, 262) notes,

... it is ... often the case that both university authorities and teachers endorse the (given) context, are part of it, and exercise their autonomy in ways which are congruent with that context, not



because they are compelled to do so but  
because they themselves are moved by  
conformist modes of thought. ... the  
control over the 'means of mental  
production' has been of great importance  
in legitimating capitalist rule. (Latter  
emphasis added.)

Most academics come from largely middle-class backgrounds, and even where this is not the case, their ideology is consistent with that of more dominant socio-economic groups. The minority of radical and non-conformist thinkers in the universities is in no sense a denial of the fact that the vast majority of academics share a view of the world which supports the general structure and workings of the United States' political economy. The institutional collusion of universities in the service of State monopoly capitalism is based upon the existence of this academic social stratum which somewhat paradoxically exhibits its passivity in its very creativity. It is with these academics and their activities that we shall concern ourselves in the chapters that follow.

### Chapter Organization of Thesis

Chapter Two deals with the relationship between State investment and the nature of the research which constitutes university production output. By documenting the increasing State expenditures on higher education in the postwar years, we shall see the priority of research and development, the largest proportion of which is related to military objectives. This will be discussed in the light of the concentration of Federal expenditures for research and development (R & D) in a small number of "elite" universities and the Federally Funded Research and Development Centers (FFRDC's). The interlocking directorates between the State and certain of its agencies (especially



the Defense Science Boards) will suggest the degree to which academics are willing to work in the "national interest".

Chapter Three focuses attention on the foundation investment inputs in "elite" universities and the types of policy research projects (outputs) undertaken with those funds. The concentration of this private capital in universities with international study programs and foreign language institutes will be discussed. In the case of the foundations, the flow of personnel between the university, the foundation, and the corporate economy is even more instructive and will be analyzed to the extent possible.

Chapter Four reverses the above emphasis by focusing on two particular institutions of higher education as representative case studies of the Military-Industrial-University complex. The selection of which universities best reflect this network is problematic in the sense that data are often incomplete and difficult to gather. The two universities to be analyzed are Michigan State University (MSU) and Columbia University. The MSU case is important for its specific relationship to the Vietnam War; the Columbia case points to the pervasiveness of the State monopoly capitalist-university ties. Together, MSU and Columbia symbolize the specificity and totality of universities in this structural order. Both cases point to the willingness of academics to involve themselves in the "national interest", which is not opposed to self-interest, and simultaneously to the passivity of academics vis-a-vis more dominant politico-economic groups in American society. The world view of academics attracts them to circles of corporate and national power, and once involved, they become energetic advocates of those powers.





Chapter Five discusses questions that relate to the psychological motivation of individuals, especially academics, participating in this structural network. The discussion will suggest methods of dealing with the relationship between social structure and ideology in capitalist societies.

The novelty of this topic in social science research creates obvious problems in methodology and data collecting. The literature that exists is extremely obscure and where relevant information is available, it is all too often arranged in unintelligible categories. This thesis attempts to overcome these difficulties by using primary sources whenever possible. For example, much of the data on the State-University relationship are taken from National Science Foundation publications (1967, 1969), whereas data on the foundations are taken from the Foundation Directory (1967). There are few primary sources which deal, however, with the military orientation of these relationships, and, as a result, certain secondary sources are cited quite frequently. Klare (1970) has provided the best documentation of the State-University military research network, and Horowitz (1969a, b, c) has most effectively dealt with the foundation-university foreign policy research. This thesis will attempt to go beyond these concentrated efforts by combining the appropriate primary sources with the more problem-oriented research of such persons as Klare and Horowitz. The emphasis here is upon the total structural order that results from both State and foundation penetration of the American universities and colleges.





## CHAPTER TWO

### THE STATE AND THE UNIVERSITY

In this day of scientific expertise, each administrator, admiral, and general requires his own contingent of unleashed intellectuals who will perform on command like trained monkeys, writing persuasive analyses in highly sophisticated and quantitative language to support the whims, hunches, value judgements, and opportunism of agency officials, converting scientist and engineer into a new kind of lawyer of technology.... In spite of bland claims that the new brain-trusters demonstrate a high degree of pluralism, independence and objectivity, it is clear that they have to a considerable extent failed to protect public interests and public control, serving instead powerful coalitions of special interests on whose behalf they often invade the policy-making realms of the State. (Nieburg 1966:252)

The historical origins of the contemporary State-University network are to be found in the large military research programs initiated on certain college campuses in the early 1940's. Conceived in a period of global conflict, this relationship has developed to the point where government contracts serve as mechanisms of social management which insure the existence of an intellectual labor force to work on government projects. The fact that these projects often have little or nothing to do with basic scientific research seems, especially at the outset, to have been of minimal importance to the scientific community which had for a long time been desirous of Federal research subsidies.

This concentration on the military orientation of government



expenditures to higher education is not to suggest that all government-university ties pertain directly to questions of "national defense". The point to be stressed, however, is that the genesis of this relationship was most certainly associated with wartime activities of the national government, and that in the past three decades this relationship has been consistently characterized by defense-related concerns.

The realization that academics could contribute greatly to the war effort resulted in the transformation of certain universities into wartime arsenals between 1939 and 1945. Through large Federal subsidies for research and development, the government became a specialized customer for the output of the scientist's work. Sidney Lens (1970:15) states, "As electronics and the atom bomb became instruments of war, the university was coopted to supply brain power." The validity of this statement is not to be questioned, yet it should be qualified by pointing out that the "cooptation" process was successful largely because of the expressed willingness of many academics to apply their energies in the service of the "national interest".\*

This chapter will outline the postwar development of these

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\*Of those universities involved in military R & D during World War II, four campuses deserve special mention. Those four universities and the projects they managed include: the University of California (the Los Alamos Laboratory); the University of Chicago (site of the first controlled chain reaction); Johns Hopkins University (the Applied Physics Laboratory, creator of the first self-detonating proximity fuse); and the Massachusetts Institute of Technology (the "Rad Lab.", center of radar research). Greenberg (1967) has estimated that contracts in excess of \$1 million were arranged between these and additional universities and industrial firms by the government's Office of Scientific Research and Development (OSRD). For a detailed account of the government-university ties in World War II, see Greenberg (1967), Nieburg (1966), and Beals (1969).



government-university ties, especially with regard to the military nature of this institutional collusion. Topics to be discussed are as follows: (a) the quantitative measure of Federal subsidies to universities for R & D and their geographical and institutional concentration; (b) the types of production output being performed with these expenditures and the benefits that accrue to the political economy; and (c) the flow of academic personnel who counsel or otherwise advise government agencies concerned with "national defense".

### Investment Inputs

The post-World War II era has witnessed a large increase in the total amount of Federal funds going to universities and colleges for "Academic Science" and R & D. Table I illustrates these increases for the years 1963 and 1967, the most recent data available from government sources.\*

TABLE I

FEDERAL OBLIGATIONS TO UNIVERSITIES AND COLLEGES BY  
TYPE AND PERCENTAGE OF SUPPORT, 1963 AND 1967  
(MILLIONS OF DOLLARS)

	<u>Total</u>	<u>Academic Science</u>	<u>R &amp; D</u>
1963	1,413.0	1,328.5 (94%)	829.5 (59%)
1967	3,311.0	2,323.8 (70%)	1,324.1 (40%)

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\*Statistical information on Federal expenditures to universities and colleges is derived from National Science Foundation (NSF) reports. Unless otherwise stipulated, all data presented here are taken from the NSF's Federal Support to Universities and Colleges, Fiscal Year 1967, published in 1969. While other NSF publications are available, this document provides the most recent data on the topic and organizes the data in categories most applicable to the thesis being advanced.





From these figures we can see that total Federal support more than doubled between 1963 and 1967, approaching \$3.5 billion in 1967. The second column of figures shows what percentage of the total was allocated to "Academic Science", defined as R & D, R & D plant, and "Other" (those activities usually connected with education). While there has been a decrease in the relative percentage going to Academic Science, in 1967 seven of every ten dollars expended went primarily into R & D and R & D plant. The third column of figures shows what proportion of the total funds went directly into R & D. Again, there has been a decrease in the relative percentage allocated to R & D (from 59% to 40%); however, it is significant that over \$1.3 billion was expended on R & D in American universities and colleges in 1967.

Turning to the military orientation of R & D in postwar American society, NSF sources indicate that the military agencies--the Department of Defense (DoD), the Atomic Energy Commission (AEC), and the National Aeronautics and Space Administration (NASA)--account for the largest proportion of Federal obligations for R & D. The recipients in this case would include not only universities and colleges and the Federally Funded R & D Centers (FFRDC's) they administer but also industrial corporations, independent think tanks, and the Federal government itself. For example, in 1967 these three agencies (DoD, AEC, and NASA) accounted for an estimated 85 percent of the total Federal expenditures for R & D; in quantitative terms this would amount to over \$14 billion (NSF 1967). Obviously universities and university-administered FFRDC's receive only a small proportion of that total Federal expenditure for R & D. Together they received an estimated \$2.1 billion (13 percent) of that total in 1967.





We can now determine what proportion of the Federal expenditures to universities and colleges and FFRDC's come from the military agencies. First, Table II shows the size and proportion of military expenditures to universities and colleges for the years 1963 and 1967.

TABLE II

SIZE AND PROPORTION OF MILITARY EXPENDITURES OF TOTAL  
FEDERAL R & D OBLIGATIONS, 1963 AND 1967  
(MILLIONS OF DOLLARS)

	TOTAL FEDERAL EXPENDITURES		R & D EXPENDITURES	
	1963	1967	1963	1967
Total	1,413.0	3,311.0	829.5	1,324.1
Military DoD	218.0	264.1	218.0	264.1
AEC	76.1	109.6	63.8	89.7
NASA	87.4	131.5	59.8	109.0
Total Mil.	381.5	505.2	346.1	462.8
% Total	27%	15%	42%	34%

From these figures we find that the military sector accounted for 27 percent and 15 percent of the total Federal expenditures to universities and colleges in 1963 and 1967, respectively. In terms of R & D, the military proportion was significantly larger, 42 percent in 1963 and 34 percent in 1967. These percentages are quite large when it is realized that they constitute the single largest category of government agencies, excepting the Department of Health, Education, and Welfare which in 1967



accounted for approximately 70 percent of the total expenditures and 43 percent of R & D expenditures. Table II also indicates the degree to which military funds are committed to R & D. In 1963 and 1967 the AEC and NASA allocated the largest portion of their monies to R & D, while the DoD allocated its entire expenditure to R & D in both years. The reasons for this military involvement in R & D on university campuses will become obvious when we look at the nature of these projects below.

The second means by which military agencies affect university research is through their subsidization of the university-administered FFRDC's (formerly called Federal Contract Research Centers). These FFRDC's were created during World War II to meet the Federal government's requirements of having academic expertise to work on military projects. In 1967, the 33 FFRDC's operated by universities received \$908 million from Federal agencies, \$800.8 million of which was for R & D. Thus, the total sum of Federal expenditures on R & D to universities and FFRDC's exceeded \$2.1 billion in 1967.

Of these 33 FFRDC's, 20 were sponsored by the military agencies of the Federal government. See Appendix I for a complete list of these 20 centers, their 1967 budget, sponsoring agency, and university administering body. Looking at the percentage of funds used to operate these FFRDC's reveals the direct influence exerted by the military sector as compared with universities and colleges above. Table III illustrates this military concentration. From Table III it is clear that the overwhelming majority of Federal funds going to FFRDC's for R & D is military in origin. Non-military government agencies accounted for only four percent of the total funds, whereas the military agencies advanced 96 percent of these funds. These FFRDC's are for the most part



mission-oriented research centers which are, in the words of the NSF (1969:36) report, "... established at or near universities where they could draw upon the available scientific and technical manpower".

TABLE III

FEDERAL OBLIGATIONS TO FFRDC'S ADMINISTERED BY UNIVERSITIES  
AND COLLEGES FOR R & D, BY AGENCY, 1967  
(THOUSANDS OF DOLLARS)

<u>Government Agency</u>	<u>R &amp; D Obligations</u>
Total, all agencies.....	\$800,798
Health, Education and Welfare (Office of Educ.).....	7,859
National Science Foundation.....	24,157
Non-Military (% of total).....	32,016 (4%)
Department of Defense.....	135,985
Atomic Energy Commission.....	411,377
National Aeronautics and Space Administration.....	211,420
Military (% of total).....	768,782 (96%)

Having established the size and military nature of Federal obligations to university R & D, it is now possible to use these figures to illustrate the extreme concentration of these funds in particular geographical zones and academic institutions. First, the degree of geographical concentration. Tables IV and V document the geographical concentration of Federal R & D funds going to universities and colleges in 1967 by area and by the five largest states, respectively. The percentage of total allocations appears in parentheses. Tables IV and V allow us to make the following observations:

- (1) Four geographical regions (New England, Middle Atlantic, East North Central, and Pacific) account for 68 percent of the total Federal obligations for R & D;





- (2) Each of the top five state recipients are located in these four geographic zones, the Middle Atlantic zone being represented by two states (New York and Pennsylvania);
- (3) These five states account for 47.1 percent of the total Federal R & D expenditures and 56.0 percent of the total military expenditures for R & D;
- (4) The proportion of R & D funds for each state coming from the military sector varies from 28.8 percent (Pennsylvania) to 64.5 percent (Massachusetts);
- (5) These five states house the "elite" universities in American society. They account for over 34 percent of all degrees awarded and over 41 percent of Ph.D.'s awarded in science and engineering (the fields most closely associated with research and development); and,
- (6) These five states house 14 of the 33 FFRDC's administered by universities and colleges. (Those FFRDC's receiving military funds are listed in Appendix I.)

TABLE IV

FEDERAL OBLIGATIONS TO UNIVERSITIES AND COLLEGES  
FOR R & D, BY GEOGRAPHIC ZONE, 1967  
(MILLIONS OF DOLLARS)

<u>Geographical Zone</u>	<u>R &amp; D Expenditures</u>
TOTAL.....	1,324.1
New England (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut).....	187.6 (14.1)
Middle Atlantic (New York, New Jersey, Pennsylvania).....	250.6 (18.9)
East North Central (Ohio, Indiana, Illinois, Michigan, Wisconsin).....	236.7 (17.8)
West North Central (Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas).....	83.2 (6.3)
South Atlantic (Delaware, Maryland, Washington D.C., Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida).....	151.5 (11.4)
East South Central (Kentucky, Tennessee, Alabama, Mississippi).....	45.8 (3.5)
West South Central (Arkansas, Louisiana, Oklahoma, Texas).....	78.9 (5.9)
Mountain (Montana, Idaho, Wyoming, Colorado, New Mexico, Utah, Arizona, Nevada).....	57.6 (4.4)
Pacific (Washington, Oregon, California, Alaska, Hawaii).....	228.1 (17.2)
Puerto Rico, Virgin Islands, Guam.....	4.1 (0.5)





TABLE V

TOP FIVE STATES ACCORDING TO FEDERAL R & D OBLIGATIONS, PERCENTAGE  
OF MILITARY CONTRIBUTIONS, ALL DEGREES AWARDED, AND PH.D.  
DEGREES AWARDED IN SCIENCE AND ENGINEERING, 1967  
(MILLIONS OF DOLLARS)

State (Zone)	R & D	Amount and % of Military R & D	% of All Degrees Awarded	% of Ph.D.'s (Sci. & Eng.)
California (Pacific)	173.0	69.7 (40.3)	8.64	11.62
New York (Middle Atlantic)	158.3	57.4 (30.0)	10.30	10.79
Massachusetts (New England)	146.4	94.5 (64.5)	4.1	6.81
Illinois (E. N. Central)	80.0	24.5 (30.0)	5.02	7.13
Pennsylvania (Middle Atlantic)	65.7	18.9 (28.8)	5.86	5.16
Top 5 States	623.4	265.0	34.23	41.51
% of Total	47.1	56.0		

Even more pronounced is the concentration of Federal support according to particular institutions of higher education. In 1967 a total of 2,056 universities and colleges received Federal subsidies, yet this total was quite unequally distributed, as illustrated in Table VI.

According to NSF figures the top 100 university recipients of Federal support (4.8 percent of the total receiving Federal assistance) received 68.81 percent of all Federal obligations in 1967; these same 100 universities accounted for 80.47 percent of the Academic Science obligations (R & D, R & D Plant, and Other). The allocations of Federal



funds for R & D, however, is even more concentrated. The top 100 recipients received \$1,666 million in 1967, 88 percent of the total Federal obligations for these purposes. Furthermore, the 96 Ph.D.-granting institutions in this top 100 category awarded approximately nine-tenths of all Ph.D. degrees in science and engineering (1965-66). And, of the eight Federal agencies contributing to university R & D, all eight gave over two-thirds of their R & D funds to these top 100 schools; three agencies (AEC, NASA, and the Department of Commerce) allocated over 90 percent of their R & D funds to these institutions.

TABLE VI

NUMBER OF UNIVERSITIES AND COLLEGES RECEIVING FEDERAL  
OBLIGATIONS, RANKED BY SIZE OF  
FEDERAL PROGRAM, 1967

<u>Size of Federal Program</u>	<u>Number of Schools</u>	<u>% Distribution</u>
Total	2,056	100.00
\$10 million or more	85	4.13
\$5 million to 9.9 million	53	2.58
\$1 million to 4.9 million	222	10.80
\$500,000 to 999,000	213	10.36
\$100,000 to 499,000	611	29.72
Less than \$100,000	872	42.41

Table VII illustrates the extreme hierarchy that exists within American higher education by focusing specifically on the top ten schools (0.48 percent of all institutions) receiving Federal R & D funds. Table VII allows us to make the following generalizations regarding concentration of Federal R & D monies and their military orientation:

- (1) The top 100 university recipients of Federal R & D obligations account for 88.08 percent of all such R & D funds, while the top 10 university recipients account for



29.09 percent;

- (2) Of the \$462.8 million allocated to R & D by the military agencies, \$421.0 million (91 percent) is concentrated in the 100 largest university recipients;
- (3) 51.3 percent of the Federal R & D obligations going to the 10 largest university recipients comes from the military agencies. This ratio for each of the 10 schools varies from 22 percent (Wisconsin) to over 87 percent (MIT); and,
- (4) This concentration by institution corresponds with the geographical concentration illustrated in Tables IV and V. Eight of the top 10 universities are located in the five largest states, and 35 of the top 100 universities are located in these same geographical zones.

TABLE VII

TOP 10 UNIVERSITY RECIPIENTS OF FEDERAL R & D  
EXPENDITURES, BY MILITARY SECTOR, 1967  
(MILLIONS OF DOLLARS)

INSTITUTION	R & D FUNDS	% OF U.S. TOTAL	SIZE AND % FROM MILITARY
Total	1,324.1	100.00	462.8
Top 100	1,166.2	88.08	421.0 (91.0)
MIT	85.8	6.48	75.2 (87.5)
Michigan	41.1	3.11	19.4 (47.2)
Columbia	35.9	2.71	19.6 (54.6)
Harvard	35.0	2.65	9.1 (24.6)
Illinois	34.4	2.60	17.7 (51.4)
Univ. of California (Berkeley)	33.0	2.49	12.2 (37.0)
Stanford	32.7	2.47	15.5 (47.4)
Univ. of California (Los Angeles)	32.5	2.45	13.3 (40.9)
Chicago	27.4	2.07	9.5 (34.7)
Wisconsin	27.3	2.06	6.1 (22.3)
Total (Top 10)	385.2	29.09	197.6 (51.3)





It is not surprising that these 100 university recipients are also the institutions that administer the FFRDC's. Of the 33 FFRDC's, all but two are administered by universities in the top 100 listing. The 24 largest universities are all involved in administering these R & D centers, either as single administrators or as part of university consortia.

These FFRDC's are undoubtedly the most mission-oriented of the university R & D complex. The six largest FFRDC's (the Jet Propulsion Laboratory, Lawrence Radiation Laboratory, Los Alamos Scientific Laboratory, Argonne National Laboratory, Lincoln Laboratory, and Brookhaven National Laboratory) received \$727 million in 1967, over 80 percent of the total Federal funds going to FFRDC's for R & D. All six of these centers received their total funding from military agencies. Three were administered by the University of California, one by the California Institute of Technology (Cal Tech), and the other two by university consortia.

From these data we can summarize our findings regarding the nature of Federal obligations to universities for R & D, their geographical and institutional concentration and their military orientation. These points have been synthesized by Michael Klare (1970: 7-8), and it is necessary to quote him at some length:

These favored schools receive up to 85 percent of their income from Federal Research funds, and up to 100 of their research budget from this source. The number of such institutions is not large. Using fiscal year 1967 figures, we find that the top 100 recipients of Federal obligations for higher education received 69 percent (\$2,278 million) of all such funds, and 88 percent (\$1,666 million) of all Federal R & D funds. Fifteen



universities alone captured 38 percent (\$507.9 million) of all R & D funds available directly to universities; those same fifteen schools received 49 percent (\$447.4 million) of Federal Funds going to university-administered Federally Funded Research and Development Centers (FFRDC's)....

This pattern of concentration is even more pronounced in the distribution of defense/space/atomic energy R & D funds. In fiscal 1967, the Department of Defense awarded \$264.1 million in R & D funds to universities, the National Aeronautics and Space Administration awarded \$109 million, and the Atomic Energy Commission \$89.7 million (these figures exclude awards to FFRDC's). The top 100 recipients of Federal R & D expenditures received 89 percent of DoD funds, 94 percent of NASA funds, and 92 percent of AEC funds, while the top 15 universities received 52 percent, 39 percent, and 51 percent respectively of these funds. DoD/NASA/AEC awards to university-administered FFRDC's are overwhelmingly concentrated in a few hands: five schools (Cal Tech, Stanford, California, Johns Hopkins, and MIT) administer 74 percent (\$647.9 million) of all such funds going to the FFRDC's. These same five schools share 25 percent (\$116.4 million) of DoD/NASA/AEC R & D funds going directly to universities; their combined income from these agencies, then, is \$764.3 million, or 57 percent of \$1.3 billion annual outlay for military, space and atomic energy research at the universities.\*

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\*This concentration of Federal R & D funds created disfavor among many smaller universities and colleges in the mid-1960's. It was not that these smaller schools opposed the military orientation of R & D in the "elite" universities; they simply wanted to be included in those expenditures. As a result, the Department of Defense initiated Project Themis in 1967, the goals of which were: "... to meet part of its (DoD's) long-term research needs, ... increase the number of institutions performing research of high quality and achieve a wider distribution of research funds ..." (in Klare 1970:8). In practice Project Themis reflected a concerted effort to extend the military-research network in accordance with DoD objectives. The stated goal,



Having documented the concentration of Federal investment input into universities and their FFRDC's, it is now possible to turn from questions of quantity to those of quality. Specifically, what types of projects, or production output, are being sponsored by these Federal subsidies, and what role do these outputs play in sustaining those interest groups which direct the American political economy?

### Production Outputs

As we have seen above, the largest proportion of Federal expenditures to universities and FFRDC's is allocated to Academic Science and R & D. R & D is most closely associated with the physical sciences and will be termed "hardware" research; this is especially the case with expenditures which are derived from the military agencies. Yet it is also true that as American foreign and military policy in the global community increasingly requires "social management" techniques to contain or hold in check other societies and populations, the Federal government has begun to augment its allocations to social science and policy research. In fact, the distinction between physical and social science research becomes difficult to distinguish in certain of these mission-oriented projects. This section will provide by example the specific types of research being performed by universities with these Federal R & D funds. The point is not to document all Federally-sponsored projects, but rather to present an overview of the military-university research network outlined in the last section.

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that of redistributing R & D funds, has not yet been realized, as Themis grants have been reduced in the past few years. A complete list of Project Themis grants is provided in Brightman (1968) and Klare (1970).





The most ominous of military R & D being performed on university campuses is Chemical and Biological Warfare (CBW) research. It may also be the most pervasive, given the number of universities involved. Official statements by the Department of Defense that production of CBW agents is strictly for "defensive" purposes have been coupled with attempts by many university administrations to conceal their (often classified) Federally-sponsored CBW research contracts. Nevertheless, despite both military and university apologetics, the direct link between the university-based CBW research and the DoD-sponsored contracts has become increasingly obvious in the past few years.

One of the first universities to come under attack for its CBW research was the Institute for Cooperative Research (ICR) at the University of Pennsylvania. As early as 1960, ICR received almost \$1 million from the Army Chemical Corps; by 1964, Pennsylvania was granted \$2.4 million, over 10 percent of Federal R & D expenditures to universities in that year. ICR's involvement in CBW research centered around two DoD-sponsored projects known as Summit and Spicerack. Project Summit, managed by the U.S. Army, was designed to "study the feasibility and desirability of using non-lethal biological and chemical agents in specified warfare situations" (in Brightman 1966:33); Project Spicerack was similar in research orientation and sponsored by the U.S. Air Force. Together these two projects yielded the ICR over \$835,000 from the military agencies.

The "defensive" and "academic" justifications given by the Pentagon and ICR respectively were brought into question when it was revealed that field reports from Vietnam (one of those "specified





warfare situations") were employed as the basis of the research. For example, ICR had subcontracted a portion of Projects Summit and Spicerack to the Cornell Aeronautical Laboratory (CAL), a wholly owned subsidiary of Cornell University. CAL's role was to "conduct a detailed target analysis to determine anticipated neutralization requirements" for CBW weapons (Klare 1970:33). The underlying significance of ICR's mission-oriented CBW research became clear when Seymour Hersh (1968:216) described ICR's offices as covered with ceiling-to-floor maps of Vietnam, "with brightly colored pins depicting various villages--or various targets". ICR's research is a classic case of university complicity in the defoliation and counterinsurgency (COIN) operations carried out by the U.S. military against the Vietnamese people. Attempts to distinguish between "offensive" and "defensive" weapons are always difficult to make; with CBW agents in guerilla warfare situations such distinctions are virtually meaningless.

University of Pennsylvania involvement is just one case among many of the relation between university research and the Vietnam campaign. The realities of U.S. "limited war" operations in Southeast Asia necessitated the most sinister of counterinsurgency techniques, and, as a result, CBW research increased in frequency in the 1960's. Tulane University researched the viability of "long-range portable flamethrower systems"; Oklahoma looked into the "susceptibility of potential target components to defeat by thermal action", or, as Sidney Lens (1970:129) puts it, "academese for how to kill guerillas with incendiaries". Cornell University investigated weapons such as hand grenades, fire bombs, hydrocarbons, bomb clusters, and incendiary gels--all under Project Heat Wave (examples from Brightman 1968:14). Other



military-sponsored CBW research on university campuses has been compiled by Klare (1970:35-38, 83). They include the following projects:

University of California (Berkeley)	"The Stability and Virulence of BW Aerosols" (Air Force).
Illinois Institute of Technology	"Dissemination Properties of Encapsulated Particles" (Army).
Stanford Research Institute	"Research Studies on the Dissemina- tion of Solid and Liquid Agents" (Army).
Johns Hopkins University	"Diseases of Potential Biological Warfare Interest" (Army).
University of Missouri (Rolla)	"Effect of Aqueous Aerosols on Atmospheric Processes" (U.S. Navy--Project Themis).

The CBW research network is far more extensive than these illustrative examples would suggest. Between 1959 and 1964, Federal R & D funds for CBW research increased fivefold from \$36.3 million to over \$170 million and involved over 50 university campuses in ongoing research. From incomplete lists of universities having CBW contracts, we can document that approximately 50 percent of the 100 largest university recipients of Federal R & D funds are performing CBW research. Twenty-six of these schools are among the top 30 recipients. The import of this university involvement in military research has been summarized by Robin Clarke (1969:45):

Today the United States has clearly found one way of circumventing the problem of not being able to attract research workers to chemical and biological warfare centers. It simply places contracts with scientists working at university and colleges. This is the main reason why so many U.S. educational establishments are now engaged in chemical and biological warfare research.\*

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\*For additional examples of universities involved in CBW



A second example of university complicity in mission-oriented research is the Institute for Defense Analysis (IDA), a para-academic organization created in 1955-56 as a non-profit institution by five universities (MIT, Stanford, Tulane, Case Institute, and Cal Tech). Initially sponsored by the Ford Foundation, the IDA was, in the words of its officials, created to provide

... a means by which individuals from universities can come to grips with major problems of national security (and) by which the government can reach deeper and more accurately into a great store of scientific knowledge and technical skill.  
(McAffee 1968:8)

By 1968 IDA included seven additional universities (Chicago, Illinois, Michigan, California, Princeton, Penn State, and Columbia) and employed over 600 persons with an annual budget of \$12 million. Until its dissolution, following student protests at Columbia in 1968, IDA served as a multi-functional organization. It has since been reconstituted as an independent corporation with a self-perpetuating Board of Trustees, testifying to its importance in the military research network.

As one of the primary DoD think tanks, IDA was to provide expertise and assistance to the Weapons Systems Evaluation Group (WSEG) of the Department of Defense. This type of research soon resulted in IDA's collaboration with the Advanced Research Projects Agency (ARPA), the major weapons-coordinating program of the Pentagon. The incorporation of academics was partially guaranteed by the lucrative rewards given for their services. They often received up to \$200 per

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research, the specific contracts and government contracting agencies, and private companies involved in CBW R & D, see Brightman (1966, 1968), Clarke (1969), Klare (1970), Lapp (1968), and Lens (1970).







day for consultant work at IDA headquarters, and since the professors remained on university campuses on a permanent basis, they were able to bypass civil service pay scales (Lens 1970:134-35). The majority of IDA projects were highly classified and performed at either the IDA headquarters in Arlington, Virginia, or at the Communications Research Center on the Princeton campus. The latter is, in reality, a code-breaking center which assists the National Security Agency in combatting both foreign and domestic "trouble areas".

Although IDA operations were initially related to conventional warfare research (especially ballistic missile systems), the emergence of the Vietnam war turned IDA's attention to non-conventional, counterinsurgency-type priorities. In the process IDA became involved with questions of foreign policy, or "software" research. By 1962 COIN studies appeared with increased frequency and regularity. Such IDA projects included, among others:

- Tactical Nuclear Weapons: Their Battlefield Utility.
- Chemical Control of Vegetation in Relation to Military Needs.
- Night Vision for Counterinsurgents.
- Behavioral Science Relevant to Military Operations: Government-Funded External Research Relevant to Persuasion and Motivation.
- Helicopter Aural Detection in Tactical Situations. (Examples in McAfee 1968: 10)

According to a 1965 report, such projects were designed primarily with regard to Southeast Asia, but they are also prepared for other areas crucial to American global interests, such as Brazil, India, and Bolivia. IDA was also responsible for the organization of the Center for Naval Analysis in 1960, an institute later transferred to the



University of Rochester.

Of special importance to the military research performed by the IDA is its Jason Scholars Program, created in 1958. Organized to allow scholars to remain on campus during the academic year, an estimated 40 Jason scholars would attend "summer camp" to work on military weapons systems and related problems of national defense and foreign policy significance. Additional benefits of the Jason Program included professors serving as military emissaries on university campuses, exposing their students to mission-oriented research, and attracting more Federal funds to their respective campuses.

As the IDA and Jason Program shifted their focus to counterinsurgency operations, the demand for behavioral science data increased. The most all-inclusive of these projects, Project Agile, was designed to develop "techniques for detecting and combatting insurgents in remote-area conflicts" (Brightman 1966:38). One such "remote-area conflict" in which social scientists have been involved is Thailand.\* Klare (1970:52, 62) has provided a more recent list of IDA behavioral science projects and their sponsoring agencies:

- "Communist China's Evolution and Impact on U.S. Security Interests Through 1975" (Office of Assistant Secretary of Defense, Systems Analysis).
- "New Military Cooperative Arrangements in the Indian Ocean--An Assessment of U.S. Benefits" (OASD, SA).
- China: "A Broad Effort to Correlate and Evaluate Data on Communist China's Political, Economic, and Military Objectives and to Determine Foreign

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\*For information on social scientists involved in U.S. counterinsurgency operations in Thailand, see Beals (1969), Garrett (1970), and Wolf and Jorgenson (1970).



Policy Implications for the United States".

--Eastern Europe: "A Series of Studies on Political, Economic, and Military Trends in Europe, Including Security Arrangements".

In total, IDA received \$12.3 million in DoD contracts in 1969 and ranked as the 57th largest recipient of DoD funds to non-profit institutions (Klare 1970:80).\*

The transition from "hardware" to "software" research made by the IDA is indicative of the changing interests of the military agencies of the Federal government. As data on foreign populations are essential to the formulation of U.S. foreign policy, government agencies turn with enthusiasm to the social and behavioral sciences. Again, the Department of Defense and, to a lesser degree, the Department of State (DoS) have been the agencies most responsible for coordinating and sponsoring that research. The social scientist, often dependent upon these mission-oriented funds for the carrying out of his foreign research, has been required to compromise his independence and his innocence.

The origins of government-sponsored foreign policy research dates back to the World War II era, when the Office of Strategic Services (forerunner of the Central Intelligence Agency) looked to universities for area specialists to assist in intelligence operations.

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\*For a summary history of the administration of the IDA, see McAfee (1968). In the past few years IDA has begun to apply its programs in surveillance techniques to urban problems in the United States. In 1967 the IDA prepared a report to the President's Commission on Law Enforcement and the Administration of Justice. The report encouraged the adoption of computerized systems of command and control based on the military model. The recent concern for "law and order" may have had its genesis in para-university think tank institutions like the IDA.





These interests have continued to dominate the Federal government's concern with the social sciences. In 1967, John S. Foster, Jr., Director of Defense, Research and Engineering (DoD) stated that his department was currently sponsoring 76 classified social sciences studies. One year earlier, William J. Crockett, then Deputy Undersecretary for Administration, Department of State, commented on the importance of university personnel to his department's activities:

The colleges and universities provide us with a rich body of information about many subjects, countries, and people through special research studies prepared for many clients and purposes. For example, the U.S. government is spending \$30 million this year on foreign affairs studies in American universities. Here in the Department (of State), in our office of External Research, we have on file information on more than 5,000 foreign affairs studies now underway in American universities. Our foreign affairs documentation center lends out to State Department officers and to offices of other agencies 400 unpublished academic papers each month. The Department receives each month over 200 new academic papers. (In Windmiller 1968:121)

One of the best examples of a university that has merged physical and social science research within a mission-oriented context is Stanford and the Stanford Research Institute (SRI). SRI, until January, 1970, a wholly owned subsidiary of Stanford University, was officially sold to the Institute's directors after students protested university complicity in the Vietnam war. Such protests were indeed well founded, as SRI has played a key role in American counterinsurgency programs abroad in the 1950's and 1960's.

In the area of physical science research, a 1957 SRI study, entitled "Environmental Conditions in Selected Areas of Potential





Limited Warfare", predicted that political instability in Southeast Asia would necessitate "counteraggression" from U.S. military forces. SRI then proceeded to engage itself in R & D on weapons systems which would make feasible and, in fact, precipitate such military activity. These projects ranged from studies of the effects of groundfire on helicopters to surveillance and reconnaissance systems, both under Army contracts. In turn many of these weapons systems were produced by corporations located in the nearby Stanford Industrial Park, a complex of spinoff companies established or supported by Stanford and SRI personnel. Stanford and the SRI have also performed CBW research in connection with the Army Chemical Corps' testing site at Dugway Proving Grounds in Utah. The CBW research was concerned with meteorological conditions and the behavior of aerosols, or how to transmit most effectively certain CBW agents. One particular chemical incapacitating agent, CS, that was researched by Stanford has been employed in Vietnam to move "the enemy" out of concealed positions.

SRI's interests in Asia go beyond those of a strictly technical variety. In the early 1960's, Weldon Gibson, Executive Vice-President of SRI, was a key figure in articulating the Cold War anti-communist crusade with respect to free enterprise and Asian development. To square practice with theory, Gibson headed a group of SRI consultants which gave advice to the Indonesian government on its "economic problems". SRI also had three "teams" working in Thailand as part of the DoD's Project Agile. The most celebrated of the SRI social science contingent has been Eugene Staley. Appointed in 1961 by Vice-President Johnson to head a special committee to study South Vietnam's "most pressing financial, military and political needs",



Staley has since been given credit for formulating the "strategic hamlet" program in Vietnam. He also recommended greater American support of the Diem regime. Other SRI activities in Vietnam include research on Naval mobility in the Mekong Delta and work on the performance of Army field radios in jungle environments (Klare 1970:22-23).\*

SRI has served as one of the most important research organizations in the military-university network. In its 22 years of existence the Institute has received half of its income (estimated at \$60 million annually) from defense agencies. In 1969, SRI received \$24.8 from the DoD and was the 36th largest non-profit institution receiving Pentagon funds. Stanford University (in 1967) ranked fourth in DoD contracts to universities for R & D (Klare 1970:80; NSF 1969).

As evidence of the DoD concern for social science research and its relation to military objectives, the Pentagon allocated \$27 million to foreign policy-oriented research and approximately \$40 million to research in foreign countries in 1968 alone (Lens 1970:78). Two universities in particular (George Washington University and American University) are crucial components of this mission-oriented research. Together these schools and their research centers received nearly \$8.3 million in DoD expenditures in 1969. Their research activities deserve brief comment.

From 1951 to 1969 George Washington University's Human Resources Research Office (HumRRO) was heavily committed to U.S. Army

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\*For a more exhaustive account of the ties between Stanford University, SRI, and the Stanford Industrial Park, see Ransom (1967, 1968, 1970).



research contracts. After student demonstrations in 1969, HumRRO was formally divorced from GWU and has become a non-profit corporation with its own Board of Trustees (see below). Its primary tasks have been to improve the training of U.S. soldiers (especially in the ROTC program on college campuses), to perform behavioral research on motivation and leadership, and to work on "man/weapons systems". Although HumRRO's headquarters is located in Virginia, the majority of HumRRO research stations are located at regular Army bases and separated according to function: Systems Operations (Virginia Headquarters); Armor (Fort Knox, Kentucky); Recruit Training (The Presidio, California); Infantry (Fort Benning, Georgia); Air Defense (Fort Bliss, Texas); Aviation (Fort Rucker, Alabama); and Language and Area Training (Virginia Headquarters). The last research station is responsible for training U.S. military personnel who will advise foreign military forces (Klare 1970:16-17).

HumRRO's activities are quite diverse, as James Ridgeway (1968:125-126) points out:

'HumRRO's mission is to discover, develop and apply human factors and social science principles and techniques to improve Army training and operational performance' says a blurb for the (HumRRO) office. The research includes studies on the effects of music on Communists, a booklet on shooting entitled 'How Fast Can You Hit Him?' and a work on urinary responses to stress.... HumRRO has developed a short automated course in Vietnamese called MALT, works on counterinsurgency, provides hints for Army missions setting out from the Canal Zone to proselytize among the Latins. (And) it published a booklet called 'Optimum Kill Power of Man'.

At American University, the Center for Research in Social







Systems (CRESS) operated as a Federal Contract Research Center under the direction of the Army Research Office. Its focus has been on social science research as it relates to counterinsurgency and psychological warfare activities of the U.S. military. CRESS was initially known as the Special Operations Research Office (SORO) until 1966 when its infamous Project Camelot was exposed and attracted widespread publicity. The newly formed CRESS is made up of two branches: the Cultural Information Analysis Center (CINFAC) and the Social Science Research Institute (SSRI). CINFAC collects, analyzes, and distributes social science studies related to U.S. counterinsurgency operations in Third World countries. SSRI is primarily concerned with the role of U.S. military personnel who work with foreign military forces. Like SRI and HumRRO, CRESS was formally divorced from American University in May, 1969, and is now affiliated with the American Institutes for Research (AIR), a Pittsburgh-based non-profit institution.

Project Camelot, mentioned above, was a SORO/CRESS study designed to ascertain behavioral science data on certain Latin American countries. Project Camelot recruited the services of social scientists from Berkeley, MIT, Princeton and Michigan and was to cost an estimated \$6 million. The goal of Camelot was essentially to design a model of social change in developing nations; in retrospect, the military orientation of the entire study has led many to believe that Project Camelot was an attempt to discover the pre-conditions of insurgency activities in Latin America. Such knowledge could then be translated into the most effective military strategies to prevent or neutralize any such indigenous movements. The academic rubric of "social change" was to provide the DoD with a means of implementing its worldwide policy of



"social control".\*

Other foreign policy research performed by CRESS includes such anthropological-sounding studies as "Witchcraft, Sorcery, Magic and Other Psychological Phenomena and Their Implications on Military and Paramilitary Operations in the Congo". CRESS's concentration on psychological warfare studies stresses the vulnerability of groups to persuasion and coercion. Ridgeway (1968:128-29) provides examples of such studies:

- Psychological Operations Vulnerabilities of the Soviet Union (EXPLOIT-USSR).
- Psychological Operations Vulnerabilities of China (EXPLOIT-CHINA).

Finally, SORO/CRESS has been involved in the Vietnam campaign. In 1961 SORO held a contract with the Special Warfare Division (U.S. Army) designed to study "indigenous communication factors in order to assist in the development of techniques of propaganda infiltration and dissemination" (Brightman 1968:13). Specifically, CRESS has prepared and distributed these propaganda materials for the rural "pacification" program, it has advised the Special Forces troops on minority groups in South Vietnam, and it has published the Army Intercultural Communication Guides (psychological warfare handbooks) on Third World countries. In 1966 CRESS turned its attention to the U.S. domestic scene in publishing a research paper entitled "Combatting Subversively Manipulated Civil Disturbances". The report suggests that police should infiltrate "subversive" groups with intelligence agents, a practice that has become quite common on American university campuses.

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\*Detailed accounts of the history and objectives of Project Camelot have been gathered by Beals (1969) and I. L. Horowitz (1967).



These examples of the military-university research network in both the physical and social sciences point to the importance of the production output of academics to U.S. military objectives. Having assumed the role of policeman of the "free world", the U.S. government demands knowledge of the peoples and cultures that fall within that orbit. The interest in the social sciences is a logical extension of the emphasis on the physical sciences in the conventional warfare era of the late 1940's and 1950's. As science and technology must, in the final analysis, relate to human populations, and as effective employment of the former (for the interests of the American ruling class) necessitates control of the latter, university complicity in the "defense" priorities of the American capitalist state has become the norm rather than the exception. The military-industrial complex has been joined by its institutional counterpart, the military-university complex. Both are resultant phenomena within the larger structure of state monopoly capitalism.

### Interlocking Directorates

The third variable, interlocking directorates, allows us to see how the institutional collusion takes place in actual practice. Although data on individuals and the specific roles they play in this government-university network are more difficult to come by, it is possible to get some indication of the persons who are the key decision-makers in the relations between these two institutional spheres. The military nature of these structural connections will once again be emphasized. The importance of academics who serve on governmental military agencies is suggested by William F. Raborn, former





Director of the Central Intelligence Agency, a key organizational arm of U.S. counterinsurgency operations. He states,

... in actual numbers we (the CIA) could easily staff the faculty of a university with our experts. In a way, we do. Many of those who leave us join the faculties of universities and colleges. Some of our personnel take leave of absence to teach and renew their contacts in the academic world. I suppose this is only fair; our energetic recruiting effort not only looks for the best young graduate students we can find, but also picks up a few professors from time to time. (In Windmiller 1968:121)

The university community's emphasis on R & D and foreign policy research is to be traced back to the World War II era when government agencies, such as the Office of Scientific Research and Development (OSRD), the Army Specialized Training Program (ASTP), and the Office of Strategic Services (OSS), looked to universities for assistance in atomic bomb research, language training, and intelligence activities. The functioning of these and more recent government agencies in the past three decades has precipitated a number of complex interlocking arrangements with university personnel. The FCRC/FFRDC's emerged as non-profit research institutes to work on technological problems related to military objectives; the foreign policy institutes were soon to follow.

The Scientific Advisory Panels that were organized after World War II provide a good example of the infrastructure of the military-university research network. Four principal bodies constitute the apex of the advisory panel system. They are: (1) the Defense Science Board (DSB); (2) the Army Scientific Advisory Panel (ASAP); (3) the Naval Research Advisory Committee (NRAC); and (4) the Air Force Scientific





Advisory Board (SAB). Below these senior boards are an estimated 100 additional advisory boards associated with other government agencies. The entire advisory panel system is supervised by the President's Science Advisor, presently Dr. Lee A. DuBridge.

According to a Stanford Research Institute report, university scientists make up the majority of members of these advisory panels. These panelists are also those most frequently connected with industry and non-profit research organizations. For example, the Pentagon describes the role of the DSB as "the connecting link between the Office of the Director of Defense Research and Engineering and the scientific and technical community of the United States (Klare 1970:5). Created in 1956 to seek scientific advice on new weapons systems, the DSB consists of 30 members, 10 of whom serve as ex-officio representatives of government R & D agencies or of other military advisory panels. The three service panels (ASAP, NRAC, and SAB) were created in the mid-1940's and serve the military R & D needs of their respective branches.

It is instructive to look in detail at the regular membership lists of these four advisory panels in 1970. Table VIII illustrates the number and percentage of persons on each panel affiliated directly with the university community. For a list of the individual university members and their respective positions, see Appendix II. Table VIII shows that 48 percent, or nearly one-half, of all persons serving on the defense advisory panels are from the university community. Three of these panels (DSB, ASAP, and NRAC) fall just below the average, while nearly 60 percent of the SAB membership is made up of university scientists and administrators. These 60 individuals represent 23 universities (or their FFRDC's) and two university consortia. Of these



23 universities, 21 are among the 100 largest recipients of Federal R & D funds, and nine of these universities are among the top 10. These nine universities account for 31, or over 50 percent, of the university members on the advisory panels. In short, those universities which receive the largest proportion of Federal R & D funds also contribute the largest number of advisors to the military panels (Klare 1970:32-33). The non-university panelists are predominantly representatives of large corporations heavily committed to defense contracts.

TABLE VIII  
SCIENTIFIC ADVISORY PANELS, BY  
UNIVERSITY MEMBERSHIP, 1970

<u>Panel</u>	<u>Number of Members</u>	<u>University Participants</u>	<u>Percentage</u>
DSB	30	14	47
ASAP	23	13	57
NRAC	15	7	47
SAB	58	26	45
Total	126	60	48

A second instance of institutional collusion between the government and the university is found in the President's Scientific Advisory Committee (PSAC), headed by the Science Advisor to the President. The warborn relation of this PSAC and universities is obvious when it is pointed out that since 1951 all but one of the seven Presidential advisors worked at either the Los Alamos Scientific Laboratory or the MIT Radiation Laboratory during World War II. In 1964, 29 of the 41 PSAC members had received their graduate training at seven universities--California, Cal Tech, Chicago, Columbia, Harvard, MIT, and Princeton. Of the total PSAC membership, 28 persons were



associated with universities and all of these individuals were from the physical sciences (Greenberg 1967:22).

The present composition of the PSAC indicates a similar trend. Of the 17 members (excluding the Chairman), 12 are from the university community representing 11 universities and one university consortia. All 11 of these universities are among the top 50 recipients of Federal R & D funds; four universities (Stanford, Columbia, California, and Harvard) are among the top 10. Appendix II lists the entire PSAC membership in 1970 (Klare 1970:34).

A third example of the concentration of university participants in the government-university research network is that of the IDA's Jason Scholars Program discussed above. All but four of the 43 Jason Scholars came from 16 university campuses or FFRDC's administered by universities. Of these remaining 39 members, 20 came from seven of the schools among the 10 largest Federal R & D recipients. All except one of the universities represented were among the top 30. Thirty of the 43 members were physicists (Klare 1970:34).

A different type of example is the Board of Trustees of the non-profit institution HumRRO, whose activities were outlined in the last section. The following individuals comprise the Board of Trustees formed after HumRRO was divorced from George Washington University:

Dr. Meredith Crawford	President, HumRRO.
Dr. William A. McClelland	Executive Vice-President, HumRRO.
Mr. C. W. Smith	Treasurer, HumRRO.
Mr. Stephen Ailes, Steptoe, and Johnson	Attorneys.
Dr. William A. Beven	Vice-President and Provost, Johns Hopkins University.
Dr. William C. Biel	Associate Dean, Graduate School, University of Southern California.
Dr. Charles Bray	Retired, formerly Special Research





Gen. Hugh P. Harris	Director, Smithsonian Institution. (USA, retired) President, The Citadel, Charleston, South Carolina.
Dr. Howard H. McFann	Director, HumRRO Division No. 3 (Recruit Training), The Presidio.
Dr. Louis T. Rader	Vice-President, Industrial Electronics Division, General Electric Corp.

This assortment of individuals is interesting in that it brings together university administrators from two schools (Johns Hopkins and USC) which in 1967 received \$4.8 million and \$2.6 million DoD R & D funds respectively. Also included are representatives from one of the largest defense industries (General Electric), a retired military officer now located at the HumRRO recruit training center, and a lawyer to manage the transactions of the institution.

Finally, one example of the Department of State's involvement in the academic community is worthy of brief attention. As part of the increased interest in social science research, the DoS has established the Foreign Area Research Coordination (FAR) program through which individual scholars must register their prospective foreign research projects. In addition, the State Department periodically descends upon annual academic conferences for the purpose of gathering and distributing foreign policy information.

The best example of this practice occurred in 1965, when the American Political Science Association (APSA) was treated to a briefing session on American foreign policy in Vietnam and the Dominican Republic by W. W. Rostow, William Bundy, and others. In retrospect it is understandable why the APSA was selected by State Department officials. In February, 1967, it was revealed that Evron M. Kirkpatrick and Max Kampelman, Executive Director and Treasurer of the APSA, respectively,



were also serving as President and Vice-President of the CIA-funded research organization known as Operations and Policy Research, Inc. Subsequent investigation showed that the APSA had also received funds from the Asia Foundation, which was, in the words of Windmiller (1968: 123), "originally started as the Committee for a Free Asia, Inc., and has always been a CIA front well known to Asian specialists".\*

This chapter has demonstrated the relationship which exists between the military agencies of the U.S. government and those "elite" universities which receive the largest proportion of Federal R & D funds. This relationship was analyzed with respect to the concentration of Federal R & D expenditures (investment input), the types of military production output performed by certain universities, and the interlocking directorates that provide the infrastructure of the military-university research network. All three variables, when taken together, point to the means by which this institutional collusion between the State sector and the university was initiated and, more importantly, how it has been maintained in the postwar decades. Universities have provided the "technical intellectual resources" in the form of a skilled labor force and the products of its labor, both of which have been recruited and employed by the U.S. military

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\*The historical dimension of this case is also interesting. Kirkpatrick was assistant director of research and analysis in the OSS at the end of World War II. In 1946 he served as assistant research director and projects control officer in the State Department's Research and Intelligence Bureau. Intelligence program advisor for the State Department in 1947, chief of the external research office staff from 1948 to 1952, Kirkpatrick added to his government credentials in 1952 by becoming head of the psychological intelligence division. With such a background, Kirkpatrick became executive director of the APSA in 1954 (Horowitz 1969b:43).



establishment. The major role of the university in this structural order has been summarized by a Stanford Research Institute report. It states:

The university is a major performer of defense R & D; a supplier of advisors and consultants to defense R & D agencies; a producer of the technical professional workforce that is the prime production factor in the many government, non-profit, industrial, and academic laboratories that produce defense R & D; and a provider of continuing, updating education to the defense R & D workforce. (In Klare 1970: 10-11; emphasis added)





## CHAPTER THREE

### THE FOUNDATION AND THE UNIVERSITY

They (the foundations) are no longer family trusts, but class institutions; they are conscious not merely of parochial economic interest but of the necessity of preserving a total social system, international in scope, on which their wealth, power, prestige--in a word, their whole way of life--depends. (Horowitz 1969a:46)

... the 'seed money' they provide for important intellectual and cultural projects helps to shape the framework of American society to a great extent.... By encouraging some projects and discouraging others, the foundations create implicit values and set the limits within which cultural and intellectual quests are undertaken. (Domhoff 1967:71)

This chapter focuses on one of the most influential institutions of the private economic sector, the foundation, and the role it plays in maintaining the political economy of American monopoly capitalism and, more specifically, the influence it exerts on American universities. Unlike the military research network between the State and the universities, the military orientation of the foundation-university network is less direct and more subtle. Yet in its subtlety lies its power and effectiveness. This is largely because of the wide range of foundation-sponsored projects that fall under the heading of "international affairs". Through these "international affairs" programs the foundations initiate and fund a large proportion of the mission-oriented foreign policy research that serves the global priorities of American corporate capital and the military establishment. In this way



foundation-sponsored research by university personnel complements the "hardware" research and development performed by many of those same universities under government contract.

To understand the importance of foundations, it is first necessary to dispel popular notions that these tax-exempt institutions are "philanthropic" and altruistic in their funding activities. This requires a brief historical sketch of the rise of foundations in American society. Foundations were an institutional response on the part of the Captains of Industry and the family fortunes of the nineteenth century to the anti-trust legislation designed to curb monopolistic control. The industrial and financial capitalists found a solution in the foundation; they created the illusion that these organizations could assure the corporate welfare of the population through their philanthropy. In reality these foundations were, above all, organizations which allowed the capitalist class to safeguard its accumulated wealth while, at the same time, furthering the process of capital accumulation.

The most famous and influential of the early foundations were those created from the Rockefeller fortunes, namely the General Education Board (1903) and the Rockefeller Foundation (1911). Horowitz (1969a:40-41) describes the role of the Rockefeller Foundation:

(It) was built as a secure repository designed to insulate a great fortune from the legal and political assaults that plague overtly commercial institutions. It was a disguised tax-free holding company.... Forced to dispense huge resources to keep its status, it salvaged something from the situation by understanding that it had a unique opportunity for private interest to operate on the cultural, political and



social life of the society.

The numerous Carnegie foundations, the Duke Endowment, and the Ford Foundation which emerged in the early decades of this century were created under similar conditions and with similar priorities.

It is understandable that these foundations have concentrated most of their energies on the remolding of educational institutions, perhaps the most important of cultural institutions in that they produce the skilled labor force necessary to manage and maintain the structural status quo. Throughout the twentieth century, the disbursement of foundation "venture capital" has indeed altered the structure and the priorities of American higher education. Important examples among many include the Carnegie Unit (a means of standardizing university enrollment and curricula), the Rockefeller-created University of Chicago, and the strengthening of the social sciences via the foundation-initiated Social Science Research Council (1923). While it is true that universities did not formally have to accept foundation programs, the "lead system" created by their expenditures placed subtle but powerful pressures on universities to comply with foundation priorities. These pressures toward conformity were outlined by Harold Laski, writing in the 1930's,

And, observe, there is not a single point here in which there is the slightest control from, or interference by, the foundation itself. It is merely the fact that a fund is within reach which permeates everything and alters everything. The college develops along the lines the foundation approves. The dependence is merely implicit, but it is in fact quite final. ... where the real control lies no one who has watched the operation in process can possibly





doubt. (In Horowitz 1969b:39)\*

The foundation was the most important external institution to affect the structure of American higher education in the pre-World War II era. In fact, the concentration of foundation activities in certain elite universities was the single most important factor leading to the hierarchical nature of the American university system.\*\*

Foundations have exerted continued pressure on universities in the postwar era also, but with one significant difference. That difference is the increased State expenditures to higher education, especially from the military agencies for R & D (see Chapter Two). As a result, foundation activities have become more concentrated in the social sciences, in the mission-oriented policy research which often has direct implications for American foreign and military policy abroad. This chapter will analyze the role that foundations play in "international affairs" studies carried out by university personnel. As before, the chapter will be divided into three sections: (1) the flow of foundation investment inputs into universities; (2) the production

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\*Or, as David Horowitz (1969b:37) remarks, "... the carrot is always more efficacious and gentlemanly than the stick. As education became more and more bound up with the success of the industrial system, therefore, the nexus of control exercised over academics came increasingly to lie in the positive advantages which the established powers were able to bestow on a professionalism ready to serve the status quo and to withhold from 'partisan' scholarship ranged against it."

\*\*A large bibliography exists on the role of foundations in twentieth century America. The best summary of the rise of foundations out of industrial and financial capitalism is that provided by Horowitz (1969a, b, c). For detailed discussion of the influence foundations exerted on the development of universities between World War I and World War II, see Horowitz (1969a, b, c), Lindeman (1936), Hollis (1938), Johnson (1932), and Curti and Nash (1965).



outputs resulting from these foundation grants; and (3) the interlocking directorates that exist between foundations, universities, the corporations, and key foreign policy decision-making associations.

### Investment Inputs

The exact number of foundations operating in contemporary American society is difficult, if not impossible, to determine. Even the Internal Revenue Service, to which these tax-exempt organizations report annually, does not have a complete or comprehensive listing. According to The Foundation Directory (1967), there are 6,803 foundations with assets exceeding \$20,000 or with annual expenditures in grants of over \$10,000. Of these 6,803 foundations, 5,022, or 73.8 percent, are located in the New England, Middle Atlantic, East North Central, and Pacific geographical regions, the areas housing the largest proportion of university recipients of Federal R & D funds. Foundations in these four regions account for 81 percent of the total assets and 84 percent of the funds expended in the form of grants. The state of New York alone has 1,822 foundations with assets totalling nearly \$9.5 billion, or 48 percent of the total assets of all 6,803 foundations.

Foundations are also organized by type, according to five classifications. The General Purpose foundations include the well-known organizations (Ford, Rockefeller, Carnegie, etc.) with large assets; they are governed by a board of trustees or directors, employ a professional staff, and operate a multi-functional program. The Special Purpose foundations concentrate on particular activities, such as art, music, medicine, etc. Company-sponsored (or Corporation) foundations are legally separate from the parent company, yet are run by persons



usually associated with the company. Their activities tend to advance the interests of the corporation, its employees, or its stockholders. Community foundations manage local charitable gifts made in perpetuity; they are usually controlled by community leaders and organized for specific purposes. Finally, the Family (or Personal) foundations, the most numerous, serve to channel the founder's current giving; they have no professional staff, trustees, or directors. Many of the large General Purpose foundations began as Family foundations before growing in size and diversity of interests (Reeves 1970:4-5). Table IX provides data on the number of each of the five types, their assets and expenditures in grants.

TABLE IX

TYPES OF FOUNDATIONS, BY NUMBER, ASSETS, AND GRANTS  
(MILLIONS OF DOLLARS)

TYPE OF FOUNDATION	NUMBER	ASSETS		GRANTS		
		Amount	%	Amount	% Assets	% Grants
General Purpose	370	13,503	68	721	5.3	59
Special Purpose	509	1,788	9	87	4.9	7
Company-Sponsored	1,472	1,307	6	177	13.5	15
Community	100	596	3	24	4.0	2
Family (Personal)	4,352	2,732	14	204	7.5	17
Total	6,803	19,926	100	1,213	6.1	100

General Purpose foundations, although few in number, account for 68 percent of foundation assets and 59 percent of expenditures in grants. These are also the foundations which most influence the university





community.

Of these 370 General Purpose foundations, The Foundation Directory shows that there are 237 "large foundations", those having assets of at least \$10,000,000. Together they have assets totalling almost \$15.0 billion, or 74 percent of the total in Table IX, and account for 61 percent of the grant expenditures of the largest 6,803 foundations. The concentration of foundation capital is even more pronounced when we look at the largest individual foundations. The Foundation Directory states, "Indeed, one of the outstanding facts concerning foundation assets is the degree of their concentration in a small number of large organizations" (1967:16). These foundations and their assets in the mid-1960's are listed in Table X.

TABLE X

THIRTEEN LARGEST FOUNDATIONS, BY ASSETS  
(MILLIONS OF DOLLARS)

<u>Foundation</u>	<u>Assets</u>
Ford Foundation	3,050
Rockefeller Foundation	854
Duke Endowment	692
Kellogg (W. K.) Foundation	492
Mott (Charles Stewart) Foundation	424
Hartford (John A.) Foundation	342
Lilly Endowment	320
Sloan (Alfred P.) Foundation	309
Carnegie Corporation of New York	289
Pew Memorial Trust	273
Longwood Foundation	251
Moody Foundation	244
Rockefeller Brothers Fund	210
Total Assets	7,730
% of 237 "large foundations"	51

These 13 foundations have assets exceeding \$7.7 billion and account for



over 50 percent of the total assets held by the 237 largest foundations. In terms of all 6,803 foundations, these 13 (0.1 percent of the total) hold more than one-third of all foundation assets. The two largest foundations, Ford and Rockefeller (whose activities we shall analyze in detail below), hold \$3,904 million in assets, or nearly 20 percent of the total assets held by 6,803 foundations.

More important to the topic at hand are the fields of activity sponsored by these foundations. This information is presented in Tables XI and XII.

TABLE XI

GRANTS OF \$10,000 OR MORE REPORTED BY 6,803  
FOUNDATIONS, BY MAJOR FIELDS, 1966  
(MILLIONS OF DOLLARS)

<u>Field of Activity</u>	<u>Amount</u>	<u>Percentage</u>
Education	157	24
International Affairs*	141	21
Humanities	117	18
Welfare	80	12
Sciences*	69	11
Health	62	9
Religion	34	5
Total	660	100

Table XI illustrates the percentage of foundation grants exceeding \$10,000 allocated according to field of activity. In 1966, education and international affairs received \$298 million in grants, or 55 percent of the total expenditures of this size by foundations. Sixty-three percent of the funds going to the field of education went to

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\*These grants are often channeled through educational institutions.



higher education. Of the funds going to the sciences, life sciences, social sciences and physical sciences accounted for 56 percent, 37 percent, and 7 percent, respectively. Table XII lists granting priorities of the 237 largest foundations. Education and International Affairs received \$442 million, or 59 percent of all funds expended by these foundations.

TABLE XII

GRANTS OF 237 LARGE FOUNDATIONS, BY  
FIELD OF ACTIVITY, 1966  
(MILLIONS OF DOLLARS)

<u>Field of Activity</u>	<u>Amount</u>	<u>Percentage</u>
Education	282	37
International Affairs	160	21
Humanities	38	5
Welfare	76	10
Sciences	99	13
Health	84	11
Religion	23	3
Total	762	61 (% of total grants)

Next to education, the largest priority of foundations is that of international affairs. Table XIII illustrates the breakdown of these allocations according to the appropriate subcategories of International Affairs. As Table XIII shows, the two largest subcategories of International Affairs are International Studies and Education, account for 36 percent and 29 percent of the total International Affairs allocations respectively. Of the \$50.8 million expended by eight foundations for International Studies, \$38 million (76 percent) went to American universities to support their International Studies programs. The real significance of these figures is realized, however, when it is





pointed out that the Ford Foundation provided the lion's share of the grants going to International Studies. Of the \$50.8 million allocated for these programs, the Ford Foundation accounted for \$50.3 million, or 99 percent of the total. The degree of Ford control of International Studies programs both at American universities and abroad justifies, indeed requires, singular treatment of this foundation and the role it plays in foreign policy research. Both the Rockefeller and Carnegie Foundations, early supporters of International Study programs have decreased their contributions in the past few years, although the Rockefeller Foundation's interest in the Education category of International Affairs remains of essential importance.

TABLE XIII

FOUNDATION ALLOCATIONS TO INTERNATIONAL  
AFFAIRS, BY SUBCATEGORY, 1966  
(THOUSANDS OF DOLLARS)

Subcategory	No. of Foundations	No. of Grants	Amount	% of International Affairs
International Studies	8	47	50,800	36
Education	58	139	40,513	29
Technical Assistance	25	131	26,535	19
Health and Medicine	38	134	11,280	8
Peace and International Cooperation	15	33	4,563	3
Cultural Relations	32	53	3,069	2
Exchange of Persons	16	22	2,539	2
General	13	21	1,272	1
Relief and Refugees	15	16	661	(less than 0.5)
Total	220	596	141,232	100.0

The Ford Foundation, since it became a national foundation in



1951, has consistently dominated the area of international research on American college campuses. Of 191 foreign affairs research centers (listed in Klare 1970:49-57), the Ford Foundation is the main source of support for 107, or 56 percent, of these 191 centers. Furthermore, 112 of these 191 institutes are located at 12 universities. David Horowitz (1969c:33) describes the importance of the Ford Foundation more clearly:

In 11 of the 12 top universities with institutes of international studies, a single foundation, Ford, is the principal source of funds. Affiliated with the institutes at Columbia, Chicago, Berkeley, UCLA, Cornell, Harvard, Indiana, MIT, Michigan State, Stanford, and Wisconsin are 95 individual centers. Ford is a sole or major source of funds for 83 of these....

The university not primarily funded by the Ford Foundation is the University of Michigan. Of these 12 universities with major international studies programs, nine are among the top 10 university recipients of Federal R & D funds. The other three (Cornell, Indiana, and Michigan State) rank eleventh, twenty-eighth, and thirty-seventh respectively. Therefore, those universities which receive the largest proportion of Federal R & D funds are also the universities with the major foreign policy programs; in both "hardware" and "software" research these schools constitute the elite universities in American society.

The subject matter range of these international studies programs is of equal interest. The major interests of these "functionally oriented centers" and the number of institutes associated with these fields are as follows: socio-cultural change (17), political change and development (14), economic development (13), communism (13), international relations in general (11), international economics (10),



national security (10), and population and demography (10). Other areas of interest represented by fewer institutes are agriculture, communication, education, human resource development, and international organizations (Klare 1970:48). These categories in themselves suggest the importance of international studies programs to the priorities of American corporate capital and the military establishment. We will now turn to the types of production output carried out by these international studies programs and the two large foundations (Ford and Rockefeller) which support them.

### Production Outputs

This section sets out to explore and validate the critical appraisal of foundations made by George G. Kirstein:

The influence of the rich in philanthropy focuses on the established institution, tends to maintain the status quo. It is rare, indeed, that major donations are made to encourage basic change or even minor dislocation of any aspect of established society. (In Reeves 1970:14)

We have seen above how foundation support centers around the "established institution"; we shall now see how the international studies programs that they support serve to maintain the status quo.

The development of foreign studies programs has been largely a post-World War II phenomenon. The Rockefeller Foundation's grant to Columbia University for the Russian Institute in 1945 was a major catalyst in this area. According to a report from the Office of External Research (Department of State), the Rockefeller grant was "the first of its kind and a model for others, (and) was the precursor of a host of foundation grants to what were to become known as university





foreign language and area centers" (in Klare 1970:45). Two years later the Carnegie Corporation began its support of non-Western studies, and in the next decade the Ford Foundation began its massive grants. According to George M. Beckmann (1970:398), an authority on foundations and one-time member of the Ford International Training and Research Program, Ford's grants reflected a particular ideological commitment, "especially for maintaining the strength of the non-Communist nations and for assisting the social and economic development of the emerging nations".

It would be impossible to list the many foreign studies projects supported by these three foundations in the past three decades, yet it is important to document some of the larger and more important of these grants. The Rockefeller Foundation initiated support of Slavic, East Asian, Near Eastern, and Latin American language and area studies at American universities and colleges; between 1934 and 1942 these grants totalled less than \$1 million. Between 1943 and 1945, however, the Rockefeller Foundation increased its support of such programs, used primarily for training and research by the military. In these two years Rockefeller expenditures surpassed the total allocated in the previous decade. After the war, the even greater demand for experts on foreign affairs led the Rockefeller Foundation to give \$250,000 to Columbia for the establishment of the Russian Institute in the newly founded School of International Affairs (SIA). The SIA was itself an outgrowth of Columbia's Naval School of Military Government and Administration. Between 1946 and 1951 the Rockefeller Foundation spent several million dollars on these and other foreign area and language programs.

The Carnegie Corporation began its support of foreign affairs



research in 1947, giving five-year grants ranging from \$155,000 to \$56,000 to several universities for training and research on Japan, India, the Near East, Southeast Asia, and Latin America. A year later Carnegie provided \$740,000 for the newly established Russian Research Center at Harvard University and \$130,000 to the Social Science Research Council (SSRC) for graduate fellowships in foreign area studies. Total Carnegie support between 1947 and 1951 was approximately \$2.5 million.

In 1951 the Ford Foundation replaced both the Rockefeller Foundation and the Carnegie Corporation as the largest supporter of international studies programs. Since 1951, the Ford Foundation has spent at least \$138 million on foreign affairs research, over half of that amount going to American universities and colleges. From 1959 to 1963 Ford made grants totalling \$42 million to 15 universities (Columbia, Harvard, Chicago, California, Cornell, Michigan, Washington, Princeton, Yale, Indiana, Pennsylvania, Wisconsin, Northwestern, Stanford, and Boston). These programs emphasize East Asian, Slavic or East European, South or Southeast Asian, Near Eastern, and African area and language communities (Beckmann 1970:396-400).

The following examples of specific grants are an indication of the priorities of these three general purpose foundations:

\$420,000 to Columbia University for research on the political evolution of modern China (1955), \$277,000 to Harvard University for research on the economy of China in modern times (1955), \$200,000 to the Massachusetts Institute of Technology for a study of economic development and social change in sub-Saharan Africa (1959), \$200,000 to the University of Michigan for research on the political modernization of Japan (1961), \$130,000 to the University of Florida for studies of the historical and contemporary forces



shaping the territories and nations of the Caribbean (1961), \$910,000 to the Social Science Research Council for research on the economy of Communist China (1961), \$240,000 to the University of Chicago for research on education and socio-economic development of transitional societies (1962), and \$250,000 to Northwestern University for research on intercultural relations (1962). (Beckmann 1970:403)

One trend seems unmistakable from these few examples: the foundation support for foreign area research coincides quite directly with historical developments in world politics, by subsidizing research on the so-called "trouble areas" as defined by American braintrusts and Cold Warriors. In the 1940's there were the "Russia watchers", and in the early and mid-1960's the "Cuba watchers" and the ever-present "China watchers". In short, the international studies programs served as a vehicle which allowed academics to maintain their university base yet act as consultants in the formulation of U.S. foreign policy. This becomes eminently clear when we look at some of the men and their backgrounds associated with the early foreign study institutes.

At Columbia University, the first director of the SIA was Schuyler Wallace, former head of the Naval School of Military Government and Administration. Wallace held that position until 1960.\* The official history of the new School states its priorities: "Of paramount importance was the task of training students for technical and

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\*Wallace not only headed the SIA and its area institutes from 1946 to 1960, but he also directed the Social Science Research Council (1952-58), was an associate of the Ford Foundation (1952-60), and director of the Columbia University Press (1955-62). This latter position was important in that it assured SIA researchers that their foreign policy studies would be published and disseminated throughout the academic population.





managerial posts in those agencies of the government which maintained a foreign service ... (Horowitz 1969c:36). This general philosophy is consistent with a 1960 report issued by the SIA entitled Employment Opportunities for Students Trained in International Affairs.

Organizations listed according to priority are: the Central Intelligence Agency, State Department, Agency for International Development (AID), U.S. Information Agency (USIA), National Security Agency, monopoly corporations (such as the Bank of America, Chase Manhattan Bank, the First National City Bank, Mobil Oil, Stanford Oil of New Jersey, etc.), and, finally, other international, civic, and cultural institutions. In 1968, SIA director, Andrew Cordier (consultant to the State Department and Ford Foundation) revealed that 40 percent of SIA graduates go directly into government service and 20 to 30 percent into international banking and business (in Horowitz 1969c:39).

The first of the area institutes at Columbia's SIA was the Russian Institute. Geroid T. Robinson, head of the OSS Research and Analysis Branch, USSR Division, was influential in the creation of the Institute and served as its first director. The 1945 Rockefeller grant to the new Institute was made by Joseph Willets, who along with Robinson and Wallace and David, Nelson, and John D. Rockefeller, were members of the key foreign policy association, the Council on Foreign Relations (CFR). Among the first staff members at the Russian Institute was Philip Mosely, a former State Department officer, member of the CFR, and successor of Robinson as the head of the Russian Institute in 1951. Of the original five man coordinating staff, only one had prior connections with Columbia University, although four had been associated with the OSS



or State Department, three were in the CFR, and three were members of the upper-class Century Club.

With the Russian Institute a success, Rockefeller and Carnegie funds soon created the East Asian and European Institutes at SIA in 1948 and 1949 respectively. The East Asian Institute, like its forerunner the Russian Institute, was headed by former State Department and foreign service officers. The European Institute was initially directed by Grayson Kirk, Columbia professor, Carnegie Corporation trustee, member of the CFR, and Mobil Oil director. When Kirk became Columbia provost a year later, he was replaced by none other than Schuyler Wallace. The most recent director is Philip Mosely, an original member of the Russian Institute staff. As Horowitz (1969c:37) states, "Like the Hapsburg Royalty, they like to keep their family small and intimate."

In two decades the Columbia SIA has extended its programs in accordance with the global expansion of the American empire. Institutes on the Middle East, Africa, Latin America, and Africa have been initiated. The only significant difference is that the Ford Foundation has replaced the Rockefeller and Carnegie Foundations as principal supporter. By 1968, Ford was the sole source of funds for nine of the 15 SIA institutes and shared responsibility in financing five of the six remaining institutes. The only formal sanction that applies to these SIA institutes exists in the office of provost and President of Columbia University, presently Grayson Kirk.

Harvard's Russian Research Center was no less a product of State Department personnel. The initiative for its creation came from John W. Gardner, then a recent OSS graduate, later President of the Carnegie Corporation, and finally Secretary of Health, Education and



Welfare in the Johnson administration. Behind Gardner at the time was Devereux Josephs, President of the Carnegie Corporation and director of many industrial and financial corporations. Originally funded with Carnegie money (and later by Ford), the Russian Research Center was headed by Clyde Kluckhohn, anthropologist and former OSS member during World War II.

As evidence of the mission-oriented research of these international studies programs, one of the Russian Center's first projects was known as the Refugee Interview Project. Financed by the Human Resources Research Institute of the U.S. Air Force, the Project gathered information from Russian refugees and forwarded this data to the Department of Defense. Other common activities of the Center staff include consultant work on classified projects managed by the Army, Navy, Air Force, the RAND Corporation, Department of State, and CIA, in addition to attending lectures given at the National Army, Navy, Air and Industrial War Colleges.

The progress of Harvard's Russian Center soon led to the creation of the Center for International Studies on the nearby MIT campus. A document entitled "The Nature and Objectives of the Center for International Studies" describes the creation of the Center:

In the summer of 1950, MIT which has been engaged for some years in research on behalf of the U.S. military establishment was asked by the civilian wing of the government to put together a team of the best research minds available to work intensely for three or four months to penetrate the iron curtain with ideas.  
(Horowitz 1969c:38)

The MIT Center was initiated with CIA funds under the personal direction of W. W. Rostow, former OSS officer and later director of the State





Department's Policy Planning Staff in the Kennedy and Johnson administrations. The first director of the MIT Center, Max Millikan, was appointed after serving as assistant director of the CIA. The Center was also financed by the three largest foundations, Rockefeller and Carnegie in the early stages and then later by Ford. MIT's advisory board on Soviet Bloc Studies includes the following persons: Charles Bohlen (State Department), Allen Dulles (CIA), Philip Moseley (Columbia's Russian Institute), and Leslie G. Stevens (Vice-Admiral of the U.S. Navy, retired).

In 1957 Harvard organized its comprehensive foreign studies institute, the Center for International Affairs. The Center was organized as "an extension and development" of the Defense Studies Seminar, the objective of which was "to provide training for civilians who might later be involved in the formulation of defense policy" (Horowitz 1969c:38). The Harvard Center was funded by the Ford Foundation and the Carnegie Corporation.

Among the organizers of the Harvard Center were Robert R. Bowie, the first director and head of the State Department Policy Planning Staff under John Foster Dulles (Harvard's Dean of Graduate School of Public Administration), Dean Rusk of the Rockefeller Foundation and later Secretary of State, and James A. Perkins of the Carnegie Corporation, later President of Cornell University and director of Chase Manhattan Bank. Other members included: Donald K. Price, Vice-President of the Ford Foundation and former member of the School of Public Administration; McGeorge Bundy, an original creator of the Center, who went on to oversee President Kennedy's national security policy. Bundy has since become head of the Ford Foundation, his White



House position being taken over by W. W. Rostow of the MIT Center. The first associate director of the Harvard Center was Henry A. Kissinger, who replaced Rostow in the White House when the Nixon administration came to power. As David Horowitz (1969c:38) aptly remarks, "The circle was not accidental and was more than symbolic."

These three examples of international studies programs at Columbia, MIT, and Harvard suggest the very direct correlation between the increased need for social and behavioral science data on foreign populations and the foreign and military policies of the U.S. government. Furthermore, this correlation between the "academic" and the "political" is quite understandable given the interchange of personnel that takes place between the foreign study institute and the government decision-making associations. Without foundation support, none of this would have been possible. The highly concentrated funding patterns of the three largest foundations have created a "lead system" which not only creates and strengthens the monopolistic structure of American higher education, but in the process threatens the independence of social scientists both in and out of these institutes. Those academics who allow foundation trustees to determine or shape their research priorities become mere social technicians whose energies are concentrated on how to manipulate foreign populations, both in theory and practice; seldom do these persons question the given order of their own society. On the other hand, those academics who refuse to comply with foundation priorities must suffer the consequences of being unable to procure the necessary funds to carry out research based upon alternative views of contemporary global society.

But this is only part of the role played by foundations in



world politics, and perhaps the less dangerous part at that. More drastic in their implications are the many "action" programs sponsored by foundations and performed in Third World countries. In this regard the Ford and Rockefeller Foundations again reign supreme among their foundation counterparts; both have proven themselves quite adept at intervening in the domestic affairs of "underdeveloped" nations vital to the maintenance of the Free World Empire.

While it is difficult to make generalizations about all foundation exploits in Third World countries, one thing that both Ford and Rockefeller share in common is a desire to build a viable socio-political infrastructure in Third World countries that will guarantee the stability of the private enterprise system. Although non-violent in their intervention, foundation-sponsored activities often attempt to alter the social organization of these societies to accommodate the interests of the American corporate ruling class. The foundations which involve themselves internationally are often those whose parent companies have large investments abroad. For example, with over one-half of the Rockefeller fortunes generated by oil companies depending on foreign operations, it makes sense that the Rockefeller Foundation would "spend 75 percent of its revenue on the creation of elites, modernization of infrastructures and purchase of goodwill overseas" (NACLA 1969). In Latin America, Colombia, a major oil producing country, received the largest Rockefeller grants in 1967 (\$1,227,353). The former President of Colombia, Dr. Alberto Lleras Camargo, was named Foundation trustee in 1967; his cousin, Carlos Lleras Restrepo, is currently the Colombian President.

Two concerns that both Ford and Rockefeller share fall under





the general headings of agricultural development and family planning/ population control--both of which are important to U.S. business interests. The "Green Revolution" in agriculture was promoted by both of these foundations, and in the last five years they have jointly established the International Corn and Wheat Improvement Center (in Mexico) and the International Center for Tropical Agriculture (in Colombia). Yet the problem of food shortage in Latin American and Third World nations (if indeed it is a problem) is generally not one of production, but rather of unequal distribution. The "Green Revolution" shows little concern for equal distribution; rather, its energies are directed toward the maximization of private production and appropriation which can only increase the disparities between rich and poor.

The concern for family planning is also specious in many respects. Although Rockefeller and Ford have established many population councils to meet the dangers of the so-called "population bomb", the net effect of their programs appears to be that Third World countries will be robbed of their future generations for the sake of present stability. The foremost problem is not one of too many people, but again one of the distribution pattern of economic products in the satellite nations of the U.S. imperialist community.

The most pressing problem for both the Ford and Rockefeller Foundations is the task of training indigenous elites to operate the national economy. Ford's annual report (1963) states:

The Foundation's Overseas Development program seeks to make strategic contributions to one or more fundamental needs--the training of an efficient and dedicated civil service; the mechanisms (tax, fiscal, and land policy planning groups, for example) for analyzing the



nation's resources and planning for their development and use; agricultural research and extension; managerial skill and technical manpower for industry; a modern system of public education. (NACLA 1970a: 5)

In sum, Ford wants to train a "modernizing elite" capable of legitimizing the capitalist mode of production in Third World nations. The end goal is the creation of a market economy and political order that will prove to be amenable to the interests of the American foreign investment.

To realize these goals, Ford and Rockefeller concentrate a large proportion of their investments to "underdeveloped" countries on university development. Within the university, the potential elite is found, trained, and groomed for its future role. Many of these prospects are brought to the United States via exchange programs, and, upon completion of their training, must return home to teach in their nation's school system. This practice not only prevents the "brain drain" from "underdeveloped" to "developed" nations, but it also works toward the perpetuation of U.S. ideology and interests through the subsequent teaching of these "Americanized" nationals. Other programs with similar priorities are teacher training and school administration. These programs attempt to influence the structure of secondary education from which both college students and the future labor force will emerge. Whether these strategies will prove successful in the long run remains in doubt, but the fact that Latin American countries with the largest U.S. foreign investments are also those which receive the largest Ford and Rockefeller grants suggests the importance of the foundations' mission.



Ford and Rockefeller activities are not confined to Latin America. The Ford Foundation's involvement on the Asian continent (especially Southeast Asia) could serve as an excellent means of recreating the history of U.S. involvement in Asia for the past three decades. Again the concern is for the creation of infrastructures consistent with the free enterprise system. Asia differs significantly from Latin America only in the sense that the socio-political situation in Asia has proven to be much more volatile, yet because of this instability of more immediate interest to the American corporate class. In the short space available, all that can be provided are selected examples and bibliographical references to the foundation-sponsored university activities in Southeast Asia.

In Burma, Judith Carnoy (1971:4), a former anthropologist, describes American foundation involvement:

Hoping to get capitalist expertise, if not dollars, U Nu invited American foundations to advise in the 'development' of Burma. As they had in Thailand, India, Indonesia, and elsewhere, the Ford Foundation, the Asia Foundation, and the Stanford Research Institute began altering the Burmese infrastructure in preparation for foreign (American) investment. The Ford Foundation, with the help of the University of Utah Business School, developed a crash program to create a managerial class, instituted rural pacification programs, and financially supported many of U Nu's Buddhist institutions.

In Thailand, according to Banning Garrett (1970), 15 private foundations (including Ford, Rockefeller, and Asia), professors from over 30 American universities, and businessmen comprise the Southeast Asia Development Advisory Groups (SEADAG). This organization works in





conjunction with U.S.-AID, a promoter of counterinsurgency studies and operations in all of Southeast Asia. Similarly, Guerrero (1971:18) describes the situation in the Philippines:

The orientation and basic materials of the present educational system and mass media are still dictated by the U.S. government and by U.S. monopoly firms.... U.S. governmental agencies like the AID and the Peace Corps and foundations like those of Asia, Ford, and Rockefeller still have a decisive say in the educational system from the elementary to the graduate level.

Indonesia is the best example of Rockefeller and Ford Foundation intervention in Southeast Asia. Paul Hoffman, in charge of the Ford activities in the 1950's, had formerly been in charge of the Marshall Plan in Europe. He was largely responsible for preventing the Dutch from reinstituting control in Indonesia after World War II and in fostering the establishment of the first pro-U.S. Indonesian government. Beginning in 1954, the Ford Foundation generated field projects in Indonesia out of contracts with two major American universities, Cornell and MIT, and after a series of such projects,

Hoffman's Ford team laid the basis of a post-independence national bureaucracy trained to function under the new indirect rule of America--in Ford's words, to train a 'modernizing elite'. (Ransom 1970:40)

Our concentration on the two largest foundations should not prevent a very brief account of the mission-oriented activities and ideological commitments of smaller general purpose foundations. A congressional investigation of American foundations led by Representative Wright Patman revealed that a number of foundations are indirectly involved with CIA operations. The CIA has been using the J. M. Kaplan Fund (of New York) as a front organization for the



channelling of its funds, while seven foundations had been contributing large sums of money to the Kaplan Fund and other CIA-financed organizations. These foundations are the Gotham Foundation, Andrew Hamilton Fund, Bordon Fund, Price Fund, Edsel Fund, Beacon Fund, and Kentifield Fund. In turn the Kaplan Fund distributed these funds to right-wing organizations such as Christianform and the American Friends of the Middle East. Christianform was created in 1949 by Nicholas T. Nonnenmacher (Major, U.S. Air Force, retired), former editor of the right-wing publication Human Events. He has also served as staff specialist of the American Legion, primarily in its subversive activities committee. Christianform entered the propaganda business in 1961 with the creation of Free Cuba Radio, broadcasting from three radio stations in Florida and Louisiana (Sherrill 1970:131-141).

Other foundations involved in right-wing causes are numerous. The Lilly Endowment, seventh largest General Purpose foundation, has been a long time supporter of such activities. Lilly funds helped to establish the National Foundation for Education in American Citizenship (NFEAC), nearly 90 percent of which went toward the publication of Human Events. This publication also has a close connection with the Life Line Foundation, the creation of Texas oil billionaire, H. L. Hunt. Also in Texas is the Brown Foundation, created from the fortunes of Brown and Root Corporation and a close financial ally of Lyndon Johnson. Between 1963 and 1964, the Brown Foundation allocated \$300,000 to CIA front organizations. According to an editorial in The Nation (December 4, 1967), this brings to seven the number of Texas foundations known to be affiliated with the CIA. Because the funds pass through foundation hands, these and other CIA-managed activities fall under the tax-exempt



status of the Internal Revenue Service.\*

Therefore, the types of production output initiated and sponsored by American foundations range from mission-oriented international studies programs in American universities, to "action" projects designed to build socio-political infrastructures in Third World countries, to right-wing causes in the United States proper. The importance of these projects to the maintenance of American monopoly capitalism is largely self-evident. These foundations are not only conservative in their political ideology, but their operations play a leading role in formulating U.S. foreign policy through the "venture capital" allocated for pilot projects and development schemes. The ability of foundations to fulfill such a vital role in the American political economy is in many respects a function of the persons who control these foundations, and it is to these interlocking directorates that we shall now turn.

### Interlocking Directorates

The preceding section has indirectly pointed to the class background and ideological orientations of many individuals who function within foundations and the university institute that they support. This section will deal primarily with the composition of foundation trusteeships to get an indication of how closely related are the power elite from corporations, foundations, universities, and government agencies.

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\*A summary of the right-wing organizations affiliated with various foundations can be found in Cook (1970), Forster (1970), Sherrill (1970), and Weaver (1970).





The classical study of foundation trustees was made by Lindeman in 1936. In his study, Wealth and Culture, Lindeman creates a character profile of foundation trustees. The typical trustee is a man well past middle age, and has considerable influence in the society or else has a great deal of economic security. He belongs to the most prestigious clubs and churches; his training has usually been in the arts and humanities, not the physical sciences; and he resides in the Northeastern section of the United States and has probably attended one of the private schools in that region. To quote Lindeman:

In short, he is a member of that successful and conservative class which came into prominence during the latter part of the nineteenth century, the class whose status is based primarily upon pecuniary success. (In Reeves 1970:80)

Lindeman's observations in the 1930's remain intact some three and a half decades later. G. William Domhoff (1967:65) in his excellent study, Who Rules America?, reaches similar conclusions:

Twelve of the top 13 foundations are controlled by members of the power elite, with two-thirds of their trustees coming from the upper class (51 percent) or major corporations (16 percent).... The one-third of the trustees who are neither members of the upper class nor corporate executives are professional persons, most of them college presidents or college professors. Just over half of all trustees attended Harvard, Yale, or Princeton; 22 earned Phi Beta Kappa keys; 20 are in the Links Club of New York; and eight are on the board of the RAND Corporation, the Air Force 'think factory' supported primarily by government contracts.

Domhoff's findings meet all the important criteria established by Lindeman--class background, corporate ties, university affiliation, and



club membership.

A more precise view of these foundation trustees, officers, and staff members can be made by looking at the individuals making up the executive bodies of the two largest foundations, Ford and Rockefeller. Table VI lists these individuals and their respective connections with the business, university, and government communities.\*

Table XIV (see pp. 85-87) illustrates the coordinates of wealth and power exhibited by the personnel who manage the Ford and Rockefeller foundations. Representatives of the corporate sector and upper class dominate these positions, with academics (both professors and administrators) accounting for a large proportion of the remainder. Furthermore, many of these trustees have joined the ranks of mission-oriented government service at some point in their careers, especially during the Kennedy years. Conspicuous in their absence are representatives of labor unions, farm or rural organizations, indeed, the working class in general.

Finally, it is instructive to show how the foundations interact with certain key governmental foreign policy decision-making bodies. Of the many such organizations which exist, the Council on Foreign Relations (CFR) is the oldest and most influential. According to Domhoff (1969:28), the CFR is the "key 'middle term' ... between the large corporations on the one hand and the federal government on the

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\*These lists of foundation trustees have been compiled from three sources: The Foundation Directory (1967), Domhoff (1967), and NACLA (1970a). As they refer to different years, the trusteeships listed reflect members and affiliations over an extended period of time; they may not all be serving presently. In many cases the specific corporation boards that these men serve have not been provided.



TABLE XIV

FORD AND ROCKEFELLER FOUNDATIONS' TRUSTEES (T),  
OFFICERS (O), AND STAFF (S)

<u>Ford Foundation</u>	
<u>Individual (Position)</u>	<u>Affiliation</u>
Bechtel, Stephen D. (T)	Head of Bechtel Construction Corp. (Oakland, California); director of Morgan Guaranty Trust, Southern Pacific, Continental Can, Bechtel-McCone Corp., and Stanford University.
*Bell, David (O)	Vice-President; AID Administrator during Kennedy administration.
*Bissell, Richard M. (S)	CIA's Deputy Director for Plans--in charge of the Bay of Pigs Invasion.
Black, Eugene R. (T)	Director of Chase Manhattan Bank, IT & T, The New York Times, Cummins Engine, Brookings Institute, and Johns Hopkins University.
*Bundy, McGeorge (O, T)	President; Director of National Security Council in Kennedy and early Johnson administrations.
Cowles, John (T)	Harvard graduate; Co-owner of the family publishing empire (including Look Magazine); trustee of Carnegie Endowment for International Peace; Director of the First National Bank (Minneapolis), and Equitable Life Insurance Company of Iowa.
David, Donald K. (T)	Professor at Harvard Business School and Dean; sits on many corporate boards.
Ethridge, Mark F. (T)	Editor of Louisville Courier-Journal (owned by B. Bingham, a Rockefeller Trustee).
Ford, Benson (T)	Member of Ford family; Princeton graduate; Vice-President of Ford Motor Co.; Director of National Safety Council.
Ford, Henry II (T)	Chairman of Board of Ford Motor Co.; Director of General Electric, General Foods, and Philco.
Heald, Henry T. (T)	Former President of Ford Foundation; President of Illinois Institute of

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\*Indicates those persons serving in the Kennedy Administration.





Individual (Position)

Gould, Lawrence (T)  
Larsen, Roy E. (T)  
Land, Edwin N. (T)

\*McNamara, Robert S. (T)

McCloy, John J. (T)

Miller, J. Irwin (T)

Stratton, Julien A. (T)  
Webster, Bethuel (T)

Bingham, Barry (T)

Brace, Lloyd D. (T)  
Bunche, Ralph J. (T)  
Camargo, Alberto Lleras (T)

Coggeshall, Lowell T. (T)

Dickey, John S. (T)  
\*Dillon, C. Douglas (T)

DuBridge, Lee A. (T)  
Lord Franks of Headington (T)

Affiliation

Technology (1940-1952) and NYU (1952-1956); Director of AT & T, U.S. Steel, Equitable Life, and Lever Brothers.  
President of Carleton College.

Chairman of Executive Committee of Time, Inc.  
President of Polaroid Corporation; former member of Kennedy's Foreign Intelligence Advisory Board.

Ex-President of Ford Motor Co.; former Secretary of Defense; President of the International Bank for Reconstruction and Development.

Former Chairman of Board of Chase Manhattan Bank; Director of many corporations; former Chairman of Ford Foundation Trustees.

Head of Cummins Engine; Director of AT & T and Chemical Bank New York Trust (financial ties with Latin America).

Chairman of Ford Trustees; MIT President.  
Corporation lawyer.

Rockefeller Foundation

Harvard graduate; Publisher of Louisville Courier-Journal and Louisville Times; heir to Standard Oil fortune.

Boston banker; sits on many corporate boards.

Professor; U.N. Official; Nobel Peace Prize winner (1950).

Former President of Colombia; Chairman of Board of Vision (Latin American newsweekly).

Dean at Rockefeller-founded University of Chicago; Director of Commonwealth Edison of Chicago.

President of Dartmouth University.

Secretary of Treasury in Kennedy Administration; former Vice-Chairman of Institute of International Education (recipient of Rockefeller and Ford funds); President of U.S. and Foreign Securities Corporation.

President of Cal Tech; Science Advisor to President (Nixon).  
English Lord.



Individual (Position)

Goheen, Robert F.

Hardin, Clifford M. (T)

Harrar, J. George (O, T)

Hesburgh, Theodore (T)

Houghton, Arthur A., Jr. (T)

Irwin, John N. II (S)

Kerr, Clark (T)

Kimberly, John R. (T)

Rockefeller, John D. III (T)

\*Rockefeller, John D. IV (T)

Seitz, Frederick (T)

Stanton, Frank (T)

Watson, Thomas J., Jr. (T)

Wood, William B., Jr. (T)

Woods, George D. (T)

Affiliation

Board member of Woodrow Wilson Foundation and Franklin Book Programs, Inc. (Rockefeller and Ford funded).

President of University of Nebraska.

President; Rockefeller's Director for agriculture.

President, Notre Dame.

Former President of Foundation for Youth and Student Affairs (FYSA), a CIA conduit for funds to the National Student Association (NSA).

Rockefeller lawyer sent to Peru by Nixon for negotiations following seizure of Jersey Standard's International Petroleum Corporation.

Former President, University of California.

MIT graduate; President/Chairman of Kimberly-Clark; on boards of Northwestern Mutual Life, First National City Bank (of New Jersey), Corning Glass, Lawrence University, and Episcopal Church Foundation.

Chairman of Rockefeller Trustees; Chairman of the Population Council (Rockefeller funded).

Fourth member of Rockefeller family on Board of Trustees; he has served with Peace Corps and State Department.

Former President, National Academy of Sciences; President, Rockefeller University; member of Defense Science Board and Naval Research Advisory Committee.

Retired investment banker; Vice-President of Rockefeller-associated First Boston Corporation (1934-1955).

Head of IBM; Director of Bankers Trust, Time, Inc., Cal Tech, and Brown University.

Vice-President of Johns Hopkins University.

Chairman of Board at First Boston Corporation (largest underwriter of utilities in the world).



other". Founded in 1921, the CFR began to receive support from the Rockefeller and Carnegie Foundations in the late 1920's. During World War II CFR members were deeply involved in State Department affairs. Immediately after the war, CFR members, such as the Secretary of State, Edward R. Stettinius, John Foster Dulles, John J. McCloy, Nelson A. Rockefeller, Adlai Stevenson, and Thomas Finletter, were part of the U.S. delegation to the organizational meeting of the United Nations.\*

The CFR membership is restricted to 700 resident (those whose residence or place of business is located within 50 miles of New York city hall) and 700 non-resident members. Domhoff's study shows that 39 percent of the CFR membership can be considered upper class (according to Social Register listings), and that 20 percent of the 51 CFR directors are currently serving as trustees of the 13 largest foundations. For example, in 1967, David Rockefeller was a director and Vice-President of the CFR. Rockefeller's interest in Latin America has recently resulted in the creation of a sister organization formed by CFR members called the Center for Inter-American Relations (see NACLA 1969).

CFR activities include the publication of the Foreign Affairs magazine and the presentation of speakers and seminars to the Committee on Foreign Relations which has organized in 30 American cities. The relationship between the foundations and the CFR is maintained through financing and overlapping membership. In a recent year, foundations

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\*Information on the Council on Foreign Relations and its activities is found in Domhoff (1967:71-73). For an analysis of other government associations which also formulate policy--the Foreign Policy Association (FPA), the Committee for Economic Development (CED), the Business Advisory Council (BAC), the National Advertising Council (NAC), and the National Association of Manufacturers (NAM)--see Domhoff (1967: 73-77).





contributed \$231,700, or nearly 25 percent, of the CFR's income. As for overlapping directorates, Domhoff (1967:73) has summarized the interlocks as follows:

10 of the 14 trustees of the Carnegie Corporation were members of the CFR in 1961. The overlap of the CFR with other major foundations is as follows: 10 of the Ford Foundation's 15 trustees are also members of the CFR; 12 of the 20 from the Rockefeller Foundation; 18 of the 26 from the Carnegie Endowment for International Peace; 15 of the 26 from the Carnegie Endowment for the Advancement of Teaching; 12 of the 16 from the Sloan Foundation; 6 of the 10 from the Commonwealth Fund; 13 of the 20 from the Twentieth Century Fund; and 7 of the 18 from the Fund for the Republic.

From these figures, the direct link, or institutional collusion, between the foundation, the university, the corporation, and the government foreign policy associations is readily apparent.

In conclusion, this chapter has shown how the foundation-university network of para-military foreign policy research complements the State-university military research network. Through the concentration of investment inputs, the types of production output carried out, and the interlocking directorates that prevail, the foundations have been quite successful in shaping the development of foreign area research in the elite American universities. In the final analysis both sets of relationships (the State-University and the Foundation-University) emphasize the importance of universities in the production of a skilled labor force to meet the challenges, conflicts, and contradictions inherent in the political economy of American monopoly capitalism.



## CHAPTER FOUR

### TWO UNIVERSITIES IN THE SERVICE OF NATIONAL POWER AND WEALTH: THE CASE OF MICHIGAN STATE AND COLUMBIA

Thus far we have looked at the influence exerted upon universities by the State (Chapter Two) and by the foundations (Chapter Three). This chapter reverses the emphasis by focusing on the creative role that universities can play as "essential components" in the military-university research network. Of the many schools which might be selected to illustrate this relationship, Michigan State and Columbia have been picked as appropriate case studies. Together they symbolize the specificity and pervasiveness of university complicity, Michigan State for its willingness to assist in the American military strategy in Vietnam and Columbia for its multiplicity of connections with the corporate business community. First, we shall look at the MSU Vietnam Project.

#### Michigan State: A University Goes to War

There have been numerous reports and accounts of the Michigan State University Group (MSUG) and its involvement in counterinsurgency operations in Vietnam in the 1950's and 1960's.\* Present treatment of this episode will not document in great detail the entire history of the Project nor the many individuals who served as participants. Instead, the discussion will be directed toward a fundamental question raised by

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\*Literature on the MSUG Project in Vietnam includes: Hinckle (1966), Horowitz (1969c), Nicolaus (1966), and Scigliano and Fox (1965). All information presented in this section is taken from these four sources.



Warren Hinckle (1966:22) in his original expose of the MSU experience:

The essential query, which must be asked before the discussion of Michigan State's behavior can be put into any rational perspective, is this: What the hell is a university doing buying guns, anyway?

The problem is in essence one of explanation, since MSU is only one among many American universities which have in the past and most probably will in the future function in the service of the U.S. military establishment.

Ultimate origins of such projects are always difficult to determine, but the generally accepted story is that provided by Scigliano and Fox, both members of the MSU Group. They recount:

In July, 1950, Wesley R. Fishel, then an assistant professor of political science at Michigan State College, met Ngo Dinh Diem, a Vietnamese politician out of power, in Tokyo, Japan. The professor and politician kept up correspondence and, in early 1951, Fishel had made his friend a consultant to Michigan State's Governmental Research Bureau. As early as 1952, Diem, still out of power, asked the French to permit Michigan State College to furnish technical aid to the Vietnamese government, the costs of which would be borne by the United States government, but the French refused. In July, 1954, Diem became Premier of Vietnam under the nominal Chief of Stateship of His Majesty Bao Dai, and, ignoring French sensitivities, arranged for the American government to send Fishel to Saigon as an advisor to himself and to the American Ambassador. (Scigliano and Fox 1965:1)

Even the early history is shrouded with yet unsolved dilemmas. Was the meeting of Fishel and Diem accidental? How did a newly appointed faculty member who had just received his Ph.D. from UCLA manage to exert such influence upon the MSU administration that it was soon involved in





the largest single project of American universities abroad? The former is an academic question, the latter can at least partially be answered.

Michigan State University was at the time under the leadership of John A. Hannah, a man with very definite ideas about the role of the university in American society. Following the general thesis of Clark Kerr that universities should act as "service stations" to the larger community, Hannah's philosophy has been summarized as follows:

'His view of the modern university is tied to the liberal concept of America as the defender of the free world. That the university must prepare young citizens to assume this proud task, and to be a leader abroad in areas chosen for it by the federal government, is Hannah's educational credo.... MSU, under Hannah's tutelage, is more service oriented than the average Standard Oil retail outlet.'  
(In Hinckle 1966:14-16)

As examples of this service orientation, MSU has a School of Hotel Management which produces educated room clerks, a School of Police Administration which produces policemen with social science training, and it offers a Bachelor of Science in Mobile Homes under a program financed by the trailer industry. For international concerns, the MSU Center for International Programs (built largely with the money derived from the Vietnam Project) operates "educational projects" in Colombia, Taiwan, Turkey, Brazil, and Okinawa with an estimated 200 professors annually.

President Hannah's background is a significant factor in the MSU orientation. Although starting out in relative obscurity with a degree in poultry husbandry from Michigan Agricultural College (1922), Hannah was eventually to become associated with the U.S. Department of Agriculture, and, upon returning to campus, became secretary of the MSU



trustees. In 1941 he succeeded his father-in-law as President of MSU, and by 1949 he was serving on a Presidential Commission under Nelson Rockefeller to design Truman's Point IV Cold War foreign aid program. Hannah's subsequent activities further explain his view of world society: he became Assistant Secretary of Defense under Charles Wilson, a director of Michigan Bell Telephone Company, and eventually Chairman of the foundation-sponsored American Council on Education. Presently, Hannah serves as head of the Agency for International Development (AID), which has awarded MSU a contract to plan a comprehensive educational program for Thailand.

Therefore, in 1955, when President Hannah received a phone call regarding the Fishel-MSU "technical assistance" program in Vietnam from either Vice-President Nixon, or, in Hannah's words, "an authority even higher than Nixon's", it is understandable that Hannah committed MSU to the foremost question of "national interest" of that day. The situation in Vietnam was urgent. Diem's regime was in near collapse, the police and army were revolting and even many cabinet members had deserted. Perhaps the only powerful support for Diem came from Fishel and the CIA, in the persons of Colonel Lansdale, Allen Dulles (CIA Chief), and, indirectly, his brother, John Foster Dulles. That support proved enough in the short run to get the U.S. National Security Council endorsement of the Diem regime in 1955.

Michigan State's role was now clear. The MSU Group was to rebuild South Vietnam's security system (which included the improvement of fingerprinting techniques, the supplying of guns and ammunition, and the development of a comprehensive intelligence operation), to help administer the economy (especially the tax and budget systems), and even



to help write the South Vietnamese constitution. The MSU Group involvement was important in that all of these activities had been outlawed by the Geneva Accords. Given the presence of the International Control Commission, the U.S. government was not willing to risk direct involvement of its more usual counterinsurgency groups (the CIA, the U.S. Operations Mission, etc.). The MSU Group Project was academic only in publicity and appearance; in reality it was a "cover" for U.S. military and foreign policy strategy.

In formal terms, the signing of two contracts officially initiated the MSUG Project, one between MSU and the Diem government, the other between MSU and the U.S. government. The Project had been sanctioned by a four-man MSU "inspection team" sent by Hannah to visit Diem and Fishel in Saigon. This "team" consisted of Arthur Brandstatter (an ex-MSU football star who headed the School of Police Administration), James Dennison (MSU's Public Relations representative), Edward Weidener (Chairman of Political Science), and Charles Killingsworth (Chairman of the MSU Economics Department). None of these men were what might be considered experts on East Asia. Their short visit, however, was enough to engage MSU in a "technical assistance" project which consumed approximately \$25 million of U.S. taxpayers' dollars.

Wesley Fishel assumed the title of Chief of Mission of the MSU Group in 1956 and held that position until 1960. Fishel and other MSU professors lived, in Hinckle's words, as "French colonial masters", residing in rent-free, air-conditioned villas with Vietnamese servants. Other attractive benefits for MSU Advisors included salaries (\$16,500/year) which often doubled their normal incomes, and a better than average chance of academic promotion either during their stay in Vietnam





or upon their return to the MSU campus. Fishel himself was promoted to full professor in 1957, having spent little time in the MSU classrooms in the prior seven years.

Although all the Chief Advisors to the MSUG were MSU political scientists, the largest proportion of the Group had no academic connection with Michigan State University. Professors from Yale, Pittsburgh, and UCLA were involved in the Project. As the program developed, the majority of the MSU Group was not directly affiliated with the university nor academic concerns in general. According to Nicolaus (1966:18):

MSUG had 104 American staff members altogether, who served various lengths of time. Only 72 were full-fledged MSU advisors. Of these 72 advisors, 33 were in the police division, 34 in the Public Administration Division, and 5 were short-term consultants. Of the 33 police advisors, only 4 came from the MSU campus, the remainder being recruited from law enforcement and other agencies. Of the 34 non-police advisors, 11 were from the MSU campus. Only 25 of all 72 advisors were actually professors, and almost all of these were in the non-police division.... While Michigan State lent its name and its respectability to the project and acted as coordinating agency, the real direction of the program came from the U.S. government and from the Saigon government.

The responsibility of the Chief Advisor (Fishel) was to coordinate the two branches (Police and Public Administration Divisions) of the program, and given the political situation in Vietnam in the mid-1950's, it is understandable that the Police Division received the most immediate attention and consumed the majority of MSUG funds.

The first task was to reorganize the "secret police" force in Saigon, the old French Surete which had been renamed the Vietnamese



Bureau of Investigation (VBI) by the MSU Group. Military equipment was brought in from MSU's School of Police Administration stockpiles left from earlier American aid to the French Expeditionary Forces. Ralph Turner, a professor of police administration, was instrumental in devising a national identity card program whereby all South Vietnamese citizens over the age of 21 were required to carry plastic-laminated ID cards. Intelligence experts were brought in as part of the MSUG from the Detroit and New York City police forces as well as from the Federal Bureau of Investigation and the Department of Defense.

Within this Police Division of the MSU Group was the counterinsurgency unit that Michigan State publicly covered for, the Central Intelligence Agency. Despite official denials by the MSU administration that the Project was a cover for CIA operations, the amount of evidence given by MSU advisors themselves makes such claims no longer credible. According to Warren Hinckle (1966:18-20) who gathered his information from Stanley K. Steinbaum, a MSUG official,

Central Intelligence Agency men were hidden within the ranks of Michigan State University professors. They were all listed as members of the MSU Project Staff and were appointed by the University Board of Trustees. Several of the CIA men were given academic rank and were paid by the University Project.... The entire unit operated on an identical hear-no-CIA, see-no-CIA basis.

This policy of granting academic status to CIA agents eventually became such widespread public knowledge that MSU actually had to remove these "intelligence experts" from the entire Project, but only after the central mission had been accomplished.

The gradual demise of the MSUG Project began in the early



1960's for a variety of reasons. First of all, despite the fact that the Project reports by MSUG Officials were intentionally modified to please Diem, he became increasingly upset with the writings of MSUG veterans who had returned from Vietnam. The original contract had specified that the academics could not use any materials they had gathered "against the security or the interests of Vietnam". Given Diem's interpretation of the Vietnamese situation, this meant that under the contract any and all criticism, however mild, was to be effectively silenced. Sensing a breakdown in the Project, President Hannah sent Alfred Seeyle, Dean of the MSU Business College, to placate Diem, even to the point of guaranteeing that all MSUG personnel would be required to "write scholarly scientific studies and not sensational journalistic articles". By this time in 1962, however, Diem had decided to divorce his regime from the MSU Group. Seeyle quickly responded by proclaiming that it was MSU that initiated the withdrawal, thus saving Michigan State University from a great deal of publicity. MSU terminated the Project, strangely enough, on the grounds of academic freedom.

A second and perhaps more important reason for the fall of the MSUG Project was that the entire Vietnam situation had changed by 1962. The split between the Canadian and Polish delegations of the International Control Commission made that body even more ineffectual in enforcing the Geneva Accords. This meant that the Central Intelligence Agency could shed its academic cloak and affiliate with its more obvious ally, the U.S. Operations Mission, which it did in 1959. Following this transfer, the MSUG Police Division staff diminished rapidly. By 1962, the MSU professors could return to the quiet setting of East Lansing,





Michigan, and once again assume their academic responsibilities.\*

This example of MSU involvement in Vietnam is instructive not only in the most obvious sense that it illustrates how universities can serve as prime agents in American counterinsurgency operations abroad, but also in the number of questions which must, if only in retrospect, be addressed. No longer can academics complain of being left out of national affairs and government decision-making. The times have changed, and the problem is now much different and more complex; the crisis for university academics is now ethical as well as political. Stanley K. Sheinbaum (1966:13), a MSUG official who courageously exposed the Vietnam Project, in 1966, has struck the heart of the problem when he states,

Looking back I am appalled how supposed intellectuals ... could have been so uncritical about what they were doing. There was little discussion and no protest over the cancellation of the 1956 elections. Nor were any of us significantly troubled by the fact that our Project had become a CIA front ... in all this they (the professors) never questioned U.S. foreign policy which had placed them there and which, thereby, they were supporting.

Scheinbaum (1966:13) proceeds to suggest an explanation for the willingness of academics to serve in such capacities:

We lack historical perspective. We have been conditioned by our social science training not to ask the normative

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\*Wesley Fishel later became advisor to the U.S. government on military strategy in Vietnam. For information concerning Fishel's connections with the Vietnamese Studies Center at Southern Illinois University, see Bulletin of Concerned Asian Scholars: Special Issue, December, 1970. A summary of additional MSU mission-oriented activities is provided in NACLA (1970a:61-62).



question; we possess neither the inclination nor the means with which to question and judge our foreign policy. We have only the capacity to be experts and technicians to serve that policy. ... we were all automatic cold warriors.... The social science professor, trained (not educated) to avoid the bigger problems, is off campus expertising for the government or industry client whose assumptions he readily adopts.... The struggle for status, recognition and money is an irresistible lure; the glamorous project is grabbed and sometimes even invented. (Emphasis added)

The MSU professors were both passive and creative. They were passive in accepting the problem in Vietnam as defined by more powerful vested-interest groups in American society. They were even more passive when, for example, the Diem government refused them the freedom to carry out investigations farther than 2000 meters from the central marketplace of certain villages. In many respects they were more "pacified" than the common foot soldier conscripted into the military ranks or the peasant for whom such "pacification" programs were designed. But within these stated parameters, the MSU professors were quite creative, and even some quite daring. However questionable their involvement, the academics met the occasion by formulating programs which often involved the most novel techniques of social management and social control possible.

Such involvement is not lacking in historical precedent. Like the missionaries of the nineteenth century, American social scientists were responsible for carrying out the priorities of American foreign policy. The professors did not speak of the Vietnamese people as "natives" or "heathens", but rather employed the scientifically more accurate term "peasants". The conversion was not to Christianity but to



the American version of "development" for Third World countries. What the missionaries had sanctioned through invocation of supernatural doctrines, a century ago, the professors were approving of in the name of reform and the doctrine of American democracy. The net effect is much the same.

### Columbia University

I have been driven to the conclusion that the University is really under the control of a small and active group of Trustees who have no standing in the world of education, who are reactionary and visionless in politics, narrow and medieval in religion. Their conduct betrays a profound misconception of the true function of a university in the advancement of learning. (Charles Beard, Resignation Statement from Columbia University, October 9, 1917, in NACLA 1970b)

This statement by the American historian, Charles Beard, upon his resignation from Columbia University in 1917, serves as an excellent point of departure to analyze the contemporary ties that exist between Columbia and the corporate business community. The parameters of this network are wide and the locus of power controlling the university quite far reaching. Columbia is the epitomy of a university "factory" designed to produce a skilled, technical and managerial labor force to serve the monopoly corporate economy and the defense establishment. Chapter Three has shown how Columbia's School of International Affairs (SIA) fulfills this role; this section will point to the pervasiveness of corporate ties that impinge upon nearly all of Columbia's activities. In short, what Michigan State was to Vietnam, Columbia is to the total political economy of monopoly capitalism.

An understanding of Columbia University's importance in





American society must begin with those who effectively control and manage the functioning of the university, the Columbia Board of Trustees. Table XV provides a detailed profile of the 22 men who make up Columbia's ruling elite (NACLA 1970b), and reads like a Who's Who directory of corporate power in American society. These men are first and foremost men of property and, as Beard stated over fifty years ago, men "who have no standing in the world of education". To further amplify the implications of this outside control of one of America's leading universities, Table XV has broken these corporate connections into five major areas (see number in parentheses after each affiliation). Those five areas are: (1) mass media corporations; (2) international corporations; (3) national corporations; (4) the defense-research network; and (5) real estate and finance. A summary outline of these five areas and how they relate to Columbia University further illustrates this university-corporate collusion.

TABLE XV

COLUMBIA UNIVERSITY GOVERNING BOARD, BY INDIVIDUAL,  
POSITION,\* AND AFFILIATION

<u>Individual (Position)</u>	<u>Affiliations</u>
Thayer, Walter N. (Trustee)	(Pr) Whitney Communications Corp. (1) (Tr) John Hay Whitney Charitable Trust (2)** (Di) Bankers Trust Co. (5) (Di) National Dairy Products (3)

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\*Positions are abbreviated as follows: Director--(Di); Advisor--(Ad); President--(Pr); Partner--(Pa); Chairman of Board--(CB); Trustee--(Tr); and Member--(Me).

\*\*Denotes organizations known to have received funds from the Central Intelligence Agency.



<u>Individual (Position)</u>	<u>Affiliations</u>
Krim, Arthur B. (Trustee)	(Pr) United Artists (1) (Pa) Phillips, Nizer, Benjamin, Krim & Ballon (1) (Di) African-American Institute (2)** (Di) New School for Social Research (3) (Tr) Field Foundation (3)
Burden, William A. M. (Trustee)	(Di) Lockheed Aircraft (4) (CB) Institute for Defense Analysis (4) (Di) Manufacturer's Hanover Trust (5) (Pa) William A. M. Burden & Co. (5) (Di) Columbia Broadcasting System (1) (Di) Allied Chemical (3) (Di) American Metal Climax (2) (Di) Farfield Foundation (2)** (Di) Atlantic Council (2)**
Dunning, John R. (Dean, School of Engineering)	(Ad) Defense Department (4) (Ad) U.S. Army (4) (Di) Atomic Energy Office, U.S. Navy (4) (Ad) National Urban League (3) (Di) Oak Ridge Institute of Nuclear Studies (4) (Di) Nuclear Energy Corp. (3) (Di) Vitro Corp. (3) (Ad) National Science Foundation (3) (Di) City Investing Corporation (4) (Tr) Riverside Research Institute (4)
Wien, Lawrence A. (Trustee)	(Pa) Wien, Lane & Klein (5) (Di) Consolidated Edison (3) (Tr) Institute of International Education (2)** (Di) Jonathan Logan (3) (Tr) Educational Broadcasting Corp. (1)
Kirk, Grayson L. (Trustee)	(Tr) Socony-Mobil Oil (2) (Di) Asia Foundation (2)** (Tr) Institute for Defense Analysis (4) (Pr) Morningside Heights, Inc. (5) (Di) Consolidated Edison (3) (Di) IBM (3) (Tr) Greenwich Savings Bank (5) (Di) Dividend Shares (5) (Di) Nation-Wide Securities (5) (Tr) Institute of International Education (2)**
Massie, Adrian M. (Trustee)	(Di) Uris Buildings Corporation (5) (Tr) Greenwich Savings Bank (5) (Di) U.S. Life Insurance (5)



<u>Individual (Position)</u>	<u>Affiliations</u>
	(Di) Investment Management Co. (5)
	(Di) Pacific Insurance (5)
	(Me) Trust Comm., Chemical Bank New York Trust (5)
Walker, Samuel (Trustee)	(CB) William C. Walker & Sons, Inc. (5)
	(Di) City Investing Company, 1948-67 (5)
	(Di) Equitable Life Assurance (5)
McGuire, Harold F. (Trustee)	(Di) Shell Oil (2)
	(Pa) Wickes, Riddell, Bloomer, Jacobi & McGuire (5)
	(Di) Seaboard Surety (5)
Hogan, Frank S. (Trustee)	District Attorney of New York County since 1941 (5)
Uris, Percy (Trustee)	(CB) Uris Buildings Corporation (5)
Paley, William S. (Trustee)	(CB) Columbia Broadcasting System (1)
Sulzberger, Arthur Hays (Trustee)	(CB) New York <u>Times</u> (1)
	(Tr) Rockefeller Foundation (2)
	(Di) Woodrow Wilson Foundation (2)
	(Di) American-Korean Foundation (2)
Cordier, Andrew W. (Dean, School of International Affairs)	(Ad) Secretary-General, United Nations, 1946-61 (2)
	(Ad) State Department (2)
	(Ad) Ford Foundation (3)
	(Tr) Near East Foundation (2)
	(Tr) Carnegie Endowment for International Peace (2)
Luce, Charles F. (Trustee)	(CB) Consolidated Edison (3)
Brown, Courtney C. (Dean, School of Business)	(Di) Uris Buildings Corporation (5)
	(Di) Columbia Broadcasting System (1)
	(Di) Union Pacific (3)
	(Ad) Chemical Bank New York Trust (5)
	(Di) American Electric Power Co. (3)
	(Di) Associated Dry Goods (3)
	(Di) Borden Co. (3)
Kappel, Frederick C. (Trustee)	(Di) American Telephone and Telegraph (3)
	(Di) Chase Manhattan Bank (5)
	(Di) Standard Oil New Jersey (2)
	(Di) Metropolitan Life Insurance (5)





<u>Individual (Position)</u>	<u>Affiliations</u>
	(Di) General Foods (3)
	(Di) International Paper (3)
	(Di) Whirlpool (3)
	(Di) Aerospace Corporation (4)
Moore, Maurice T. (Trustee)	(Di) Time, Inc. (1)
	(Di) General Dynamics (4)
	(Di) Chemical Bank New York Trust (5)
	(Pa) Cravath, Swaine & Moore (3)
	(Di) Pennsylvania Glass Sand Corp. (3)
Temple, Alan H. (Trustee)	(Di) First National City Bank (5)
	(Tr) Atlantic Mutual Insurance (5)
	(Di) Seaboard Surety (5)
	(Di) Monsanto Chemical (3)
	(Di) Mead Corp. (3)
	(Di) Lazard Fund (5)
Peterson, William E. (Trustee)	(Pr) Irving Trust Co. (5)
Buttenwieser, Benjamin J. (Trustee)	(Ad) Uris Buildings Corp. (5)
	(Pa) Kuhn, Loeb & Co. (5)
	(Di) Tishman Realty & Construction (5)
	(Di) Benrus Watch Co. (3)
	(Di) Revlon (3)
	(Di) Title Guarantee Co. (5)
	(Di) Chock Full O'Nuts (3)
Warren, William C. (Dean, School of Law)	(Tr) Central Savings Bank (5)
	(Di) Guardian Life Insurance (5)
	(Di) ABC Vending (3)

First, the mass media corporations. Eight of the 22 members of Columbia's ruling elite are involved with major communications firms, especially the Columbia Broadcasting System (CBS) and the New York Times. The most direct connection with the university is through the Columbia School of Journalism which produces skilled labor for the communications industry. Columbia also houses the industry's American Press Institute, while the law firm of Phillips, Nizer, Benjamin, Krim (a trustee) & Ballon counsels many communications companies.

These corporations reciprocate by funding the School of



Journalism as well as creating a favorable public image of the university. Specific examples of the news media bias toward the Columbia administration include editorial denunciation of community leaders opposed to Columbia's real estate expansion into depressed areas of the city and the pro-administration reporting during the Columbia student uprising in 1968. NACLA writers have suggested that New York Times writers were given accounts by the police before the actual arrests took place, with charges of police brutality being overlooked by the Times editorialists.

The second area in which Columbia administrators play an active part involves the many international corporations on whose boards they serve. Seven of the 22 men listed in Table XV have connections with U.S. corporations or non-profit institutions which operate abroad. President Kirk and Trustees McGuire and Kappel sit on boards of oil companies which depend almost entirely on foreign resource deposits; Trustee Burden's American Metal Climax has mining interests in Africa. Columbia's School of International Affairs (SIA) is funded by many of these corporations which in turn employ the skilled managers trained at SIA to oversee their foreign economic interests.

Furthermore, six of the seven trustees involved in overseas activities are affiliated with organizations receiving CIA funds. The Fairfield Foundation, founded by Trustee W. A. M. Burden, has been used as a front organization for the channelling of CIA funds to the Congress for Cultural Freedom. Grayson Kirk, Columbia President, is the Director of the Asia Foundation and a Trustee of the Institute of International Education (IIE). The Asia Foundation is famous for its para-military operations in Southeast Asia. The IIE is a multi-purpose organization



which develops "cultural exchange" programs between American universities and "underdeveloped" Third World countries, in addition to providing information to U.S. multinational corporations regarding everything from the availability of foreign labor to the expansion and establishment of foreign operations.\*

Extended research by persons concerned with Columbia's connections with the U.S. intelligence community has shown that at least 28 individuals affiliated with Columbia University are also affiliated with organizations funded by or which serve as conduits for the CIA. Many of these men and organizations are in one way or another connected with the School of International Affairs. One of the many examples which could be cited is the SIA-directed Research Project on National Income in East Central Europe, a project which (as Columbia finally admitted after a student-professor investigation of SIA) had received \$125,000 from the CIA's Office of Economic Research. Two of the researchers had worked for Radio Free Europe (RFE) just prior to the beginning of the project. RFE is administered by the Free Europe Committee (FEC), which receives CIA funds for its radio broadcasts and for support of Eastern Europe exile groups which assist in U.S. intelligence operations. As early as 1955, the FEC gave \$55,000 to the SIA for research on Eastern Europe, while many FRE personnel came to the SIA to study at the Research Institute on Communist Affairs. Grayson Kirk's son is former director of the Free Europe Committee.

Columbia personnel are also represented on the Council on

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\*A detailed analysis of the Institute of International Education is found in NACLA (1970a:57-63).





Foreign Relations, the key government foreign policy association.

Twenty of the 24 Columbia men on the CFR are from the SIA, 15 from the SIA Advisory Council or executive body and five from specific regional institutes. Of the four non-SIA members on the CFR, two are trustees, one President (Kirk), and one Vice-President and Provost.

Other Columbia programs which assist in the management of the American empire are the Parker School of Foreign and Comparative Law and the Graduate School of Business. According to University Statutes, the Parker School (in cooperation with the SIA) assists in

... equipping a limited number of advanced students to render practical service of a high order to the government of the United States in its international relations, or to financial and industrial institutions engaged in international trade or commerce whose activities indirectly affect international relations. (NACLA 1970b:11)

The School offers courses on the legal systems of many countries, and each summer provides a special course for American lawyers who counsel U.S. corporations with foreign operations.

The Columbia Graduate School of Business (GSB) also lends its support to mission-oriented activities. The GSB has given summer courses to corporation executives on economic policy determination in Latin America. For students who wish to combine business with politics, the GSB and SIA offer a joint program leading to the Master's degree in either International Affairs or Business Administration. The programs are obviously complementary in that both train students as specialists in the management of American interests abroad.

The third area involving members of the Columbia elite is the national corporations which dominate the domestic economy. Five of the



22 Columbia administrators have primary relations with leading national corporations while others have secondary interests. The most important benefit that corporations derive from their university connections is the technical, skilled labor produced by the academic institutions, especially those persons trained in professional schools of law, business, and applied science and engineering.

Examples of specific advantages going to university and corporation through their interlocking directorates are numerous. For instance, Columbia University was involved in the research resulting in the Strickman filter for cigarettes; in fact, President Kirk was the first to publicly announce the filter's discovery. Prior knowledge of the research led Columbia trustees to buy large numbers of tobacco stock on the correct assumption that the innovation would increase the value of the stock. Another person to benefit from his association with Columbia was V. G. Kling, a former trustee and Philadelphia architect. In 1965, Kling was awarded a closed bid contract for designing a new classroom building on the university campus; he also designed the Penn-Central building in Philadelphia for which Percy Uris, a Columbia trustee, was general contractor. Columbia University also makes large investments in a number of corporations represented by university trustees. The university has stock holdings in International Business Machines (IBM), represented by Kirk, Wien, and Luce, and in Consolidated Edison, of which President Kirk is a director. These corporations also benefit from such arrangements. The Watson Computer Laboratory at Columbia is operated for IBM, and Con Edison gains from the university's land speculations and rental policies.

The defense-research network constitutes the fourth major



interlock between Columbia, the defense industries, and the Federal government. Five of Columbia's ruling elite are representatives of the military-industrial complex. W. A. M. Burden's Lockheed Aircraft and M. T. Moore's General Dynamics together receive \$3.6 billion, or 10 percent, of all U.S. military contracts. Burden is also Chairman of the Board of the Institute for Defense Analysis which directs an estimated \$15 million worth of Pentagon-financed war research. President Kirk adds academic respectability to the IDA by sitting on its Board of Trustees. John Dunning, Dean of the School of Engineering, is a trustee of Columbia's Riverside Research Institute (RRI), a Defense Department consultant and atomic energy expert, and serves as the director of three corporations dependent on military contracts. One of these corporations, City Investing Corp., performs subcontract work for Lockheed Aircraft (Burden); CIC manufactures dissemination systems for defoliants being used in Vietnam.

Columbia University has greatly increased its military contracts since 1945 to the point that in 1966 the university received over \$25 million for military research from the Federal government. Although only 18 of the 775 contracts were classified, these 18 accounted for one-quarter of all income derived from government sources. These 18 contracts totalled \$13.9 million and were distributed to Columbia research laboratories as follows: Lamont Geological Laboratories (\$4.4 million), Electronic Research Laboratories/Riverside Research Institute (\$4.8 million), and Hudson Laboratories (\$4.7 million). A brief discussion of these research laboratories illustrates the extent to which Columbia has become a militarized campus.

The Electronic Research Laboratories (ERL) was organized in





1951 by the Electrical Engineering Department as a semi-autonomous research organization that would work on electronic and radar equipment for ballistic missiles for the Department of Defense. The ERL is a high security research laboratory located on the Columbia campus. The research, most of which is classified, is supervised by the DoD's Advanced Research Projects Agency. In 1966, confronted with protests regarding war research, ERL became a non-profit research corporation known as Riverside Research Institute whose Board of Trustees still contains university personnel (the President and Dean of Engineering) and whose laboratories remain on campus.

Columbia also administers the Hudson Laboratories, a Federally-Funded Research and Development Center (FFRDC). The Hudson Laboratories perform most of their DoD research for the U.S. Navy. The projects include "research directed toward the detection, localization, and classification of submarines by all possible means", and the development of an underwater continental sonar warning system.

Columbia's Lamont Geological Observatory is one of the largest university-based oceanographic research centers in the United States. Under DoD direction, the Lamont Observatory is concerned with the vast potential of the ocean floor for economic and military purposes. Fields of research include earthquake seismology (nuclear test detection), space physics, marine geophysics, submarine geology, and chemical and physical oceanography. The Observatory is directed by Dr. Maurice Ewing who, before joining Columbia, was a research associate on the National Defense Research Committee. A large amount of the funding for the Lamont Laboratories comes from private oil companies (Standard Oil of New Jersey, Texaco, Superior, Shell, and Continental) who benefit from



the technology and technicians produced at the Lamont Observatory. But the largest proportion of R & D monies comes from the Office of Naval Research (ONR) and the National Science Foundation of the Federal government. The Navy's primary research concern is with anti-submarine warfare, for which the ONR spent \$50 million in 1967 and 1968. In 1966 the Lamont Observatory had seven DoD classified contracts totalling \$4.4 million.

Columbia is also heavily committed to research on atomic energy at the Columbia Radiation Laboratory located on campus. The "Rad Lab" served as the primary research center on radar systems in World War II and was instrumental in the creation of the atomic bomb. For large projects on atomic energy, Columbia researchers go to the Brookhaven National Laboratories, managed by the university consortium Associated Universities, Inc. Columbia is one of the member universities. The university also operates additional research centers in affiliation with other universities. The Institute for Space Studies (NASA-funded), the Watson Laboratory (IBM operated), and the Institute for Defense Analysis are the best examples. To complete its military orientation, Columbia University offers a Naval R.O.T.C. program which is administered by the Naval Science Department.

Finally, the most notorious of Columbia's non-academic activities pertains to its real estate and financial dealings in the New York City area. Of the 22 persons listed in Table XV, at least 15 have interlocking relationships with New York City's major real estate and financial companies. In fact, Columbia University has over 60 percent of its \$245 million endowment in real estate and is thus one of the most propertied institutions in New York City. Three Columbia trustees



(Buttenwieser, Massie, and Uris) and C. C. Brown, Dean of the Business School, are closely associated with the large construction firm of Uris Buildings Corporation. Uris serves as President Kirk's advisor on university construction and expansion. Should any conflict of interest arise, Frank S. Hogan, Trustee and District Attorney of New York County since 1941, is available to settle the dispute.

The basis of Columbia's real estate activities is the network of banks and miscellaneous financial companies affiliated with the university through the Board of Trustees. Dean Brown is not only director of Uris Buildings Corporation but also advisor to the Chemical Bank New York Trust Company. Adrian M. Massie, a Columbia trustee, is a director of the Chemical Bank and two major insurance companies, and also sits with Grayson Kirk on the Board of Greenwich Savings Bank. Trustee Buttenwieser is a partner in the Kuhn, Loeb & Co. investment concern; Trustee Borden is a director of Manufacturer's Hanover Trust; Trustee Temple is a director of the First National City Bank and Atlantic Mutual Insurance Company. Finally, Rockefeller financial interests are represented by Frederick R. Kappel (trustee), director of the Chase Manhattan Bank and Metropolitan Life Insurance Company.

This real estate-finance interlock provides the mechanism around which Columbia University has organized its program of territorial expansion in the Morningside Heights area of New York City. During the 1940's, Morningside Heights had gradually changed from a high income white community to a low income slum neighborhood. To protect Columbia University and other important cultural and religious institutions in this area, David Rockefeller established Morningside Heights, Inc. as a means of "redeveloping" the area. Grayson Kirk is





now president of this organization. In the past two decades Columbia University bought all available land in the area and, in the process, displaced large numbers of ghetto dwellers. Columbia University has become one of the largest slumlords in New York City. The process of expropriation employed by the university has been described as follows:

Since Columbia's gargantuan expansion is not an urban renewal project, even the minimal guarantees available under public clearance have not been of help to Morningside Heights residents. Columbia and its cooperating institutions simply buy on the market and when they want a particular space they get rid of the tenants. Columbia rarely goes through the tedious procedure of legal evictions, having developed other methods to achieve that end. Many of the buildings are rent-controlled and make legal eviction difficult. So the university, usually through an agent, stops servicing the building, and the consequent cold drafts soon make the building uninhabitable; or else it simply stops accepting rent. Not infrequently, Columbia's tenants have been known to come home at night to find a plug inserted in their locks, preventing them from locking their own doors in the future. (Editors of Ramparts 1968:29)

The primary targets for Columbia's expropriation program are residences described as "Single Room Occupancies" usually inhabited by blacks and Puerto Ricans.

In conclusion, the men who rule Columbia represent the corporate elite in American society, a class which in following its vested interests has quite drastically altered the structure and priorities of American higher education. To say that Columbia University is a service-oriented institution is only half the story. The essential point is that the services which it provides are oriented toward the needs of men of property. Just as New York City is the



financial center of the American empire, so too is Columbia the academic center most responsible for producing the managerial expertise necessary to oversee that empire. Columbia's intricate network of interlocks encompassing the national and international corporations, real estate and financial operations, and the U.S. military establishment is evidence of the extent to which universities have become "essential components" in maintaining the political economy of American monopoly capitalism. The commonly accepted assumption that universities are communities of scholars primarily concerned with teaching is a myth. The university is, in reality, a corporate industry managed by businessmen and directed toward business interests, the ultimate goal being the preservation of the structural status quo.



## CHAPTER FIVE

### CAPITALIST SOCIAL STRUCTURE AND IDEOLOGY: THE WORLD VIEW OF THE ACADEMIC COLD WARRIORS

The military-university complex must be approached from many levels of analysis. Thus far the discussion has been concerned with questions of social structure. We have outlined the institutional collusion that occurs among the university, the foundation, the monopoly corporation, and the State. This collusion, as we have seen, has resulted in the incorporation of universities into the locus of wealth and power of the American political economy. In turn, universities have functioned as system maintainers; they produce the skilled labor, both technical and managerial, and the technological innovations that in the final analysis are essential to the stability of monopoly capitalism and its corporate ruling class.

Having outlined this structural order, it is now possible, and important, to move to another level of analysis. The concern here is with motivational factors which lead a large number of intellectuals to participate in mission-oriented research defined by either the private corporate sector or the State, or both. In abstract terms, there are two possible ways to explain this academic complicity. Either the structural order is so rigid and authoritarian that individual participation is required and not subject to question, or certain phenomena which academics share in common precipitate their involvement. The former implies the use of institutionalized force; the latter suggest conscious motivation. Not denying the rigidity of the structural order in contemporary American society, which may yet only be





partially realized, it is correct to assume that the second explanation is more plausible at the present time. If this assumption is correct, what factor or factors are most important in determining this willingness on the part of academics? It is at this juncture that we must explore the relationship between the social structure of monopoly capitalism and the world view, or ideology, of academics.

The problem of motivation is much more than one of individual psychology. Instead of searching for abstract principles of "human nature", the problem is to assess the effect that the given institutional order has upon the values and behavior of the individuals in question, in this case academics. In short, the motivation and behavior of academics can only be understood by concentrating on the specific social situations and conditions in which they operate.

We also know that ideology is quite important to the maintenance of social systems, and that the dominant ideology in a given society is inseparable from the social structure of that society. In monopoly capitalist societies, such as the United States, the dominant ideology is that which instills in its members the belief that success, especially business success, is the best means of measuring individual value. Baran and Sweezy (1966:37-38) have described this relationship between social structure and individual ideology as follows:

Under capitalism the highest form of success is business success, and under monopoly capitalism the highest form of business is the big corporation. In this system the normal procedure for an ambitious young man must be to work himself up to as near the top as possible of as big a corporation as possible. Once he enters a given corporation, he devotes himself to two ends: ascending the managerial ladder and advancing the relative status of his



company in the corporate world. In practice these two ends are indistinguishable: the young man's rise in the company depends on his contribution to improving the position of his company. This is the crux of the matter, and this is why we can say without qualification that the company man is dedicated to the advancement of his company: he is dedicated to the advancement of his company precisely to the extent that he is dedicated to advancing himself.... The character of the system determines the psychology of its members, not vice versa. (Emphasis added)

The importance of this passage cannot be underestimated. In accepting the system as it is, the businessman's subjective values, goals, and his entire ideology is shaped by the objective requirements of the system. The corporation succeeds by meeting the objective necessity of accumulating capital and making profits; the corporate businessman acts accordingly because of his position in that system.

But one may ask what bearing this has upon academics, their values, their ideology, and their behavior. Surely academics do not work for companies, at least not directly, and few would suggest that the academic is as loyal to his university as the businessman is to his corporation. Granting these minor differences, the analogy between the corporate business and university structures is very direct. Similarly, the world views of the businessman and the academic are alike in most respects. Since universities are "essential components" in the political economy of State monopoly capitalism, it is also to be expected that the subjective interests and consciousness of academics is largely determined by these objective conditions. Like businessmen, most academics, especially those academics who have already achieved power and influence in the university community, accept the system as it



is. Unlike businessmen, academics are not usually committed to only one university. Rather, the "value-free" stance taken by academics is itself an ideological commitment developed within the academic community, an ideology which conceals the vested interests shared by the majority of scholars in American universities and their desires to maintain the total system. As Noam Chomsky (1967:348) suggests:

A good case can be made for the conclusion that there is indeed something of a consensus among intellectuals who have already achieved power and influence, or who sense that they can achieve them by "accepting society" as it is and the values "being honored" in this society.

Most academics share a belief in the American liberal doctrine of the Cold War era, which states that the United States must protect itself and the "free world" by assisting those less fortunate nations to resist the "evils" that plague our global society. Within this general world view, each academic works toward the advancement of his particular "science" and the role it can play in meeting those ends.

Such assertions are more than mere speculations. We have already seen that at this moment American universities are deeply involved in the implementation of American economic, political and military objectives abroad. Universities have sanctioned the training of military officers in their R.O.T.C. programs; university research and development centers have provided the technology and technicians which have been employed in extending the American empire; and university social scientists, in their international studies institutes, have provided the ideological justifications for American foreign policy, a foreign policy which has championed the most undemocratic of political regimes and the most barbaric forms of military intervention.





Whether academics always believe everything they say in advancing these ends is often difficult to determine and in the final analysis largely irrelevant. What is relevant is the fact that these academics provide the "expertise" necessary for the planning and implementation of American foreign policy. As an example of the U.S. containment policy toward China, Professor David N. Rowe, director of graduate studies in international relations at Yale University, suggested to the House Committee on Foreign Affairs in 1966 that the U.S. government should buy all surplus Canadian and Australian wheat so as to induce mass starvation in China. Professor Rowe would have us believe that such suggestions are really in the best interests of all concerned. He adds:

Mind you, I am not talking about this as a weapon against the Chinese people. This weapon will be a weapon against the Government because the internal stability of that country cannot be sustained by an unfriendly Government in the face of general starvation. (In Chomsky 1967:337)

Interestingly enough, Rowe's statement suggests by implication that earlier myths about the "starving masses" of China have little or no validity, and that the development of Chinese society can only be disrupted through intervention by the Western powers. That same House Committee heard testimony on Vietnam from Reverend R. J. deJaegher, regent of the Institute of Far Eastern Studies at Seton Hall University. deJaegher stated that the United States should resort to saturation bombing since, like all people living under communism, the North Vietnamese "would be perfectly happy to be bombed to be free" (in Chomsky 1967:338). The U.S. military establishment, despite North Vietnamese offers for negotiation, did initiate all-out bombing in the



mid-1960's, not to insure freedom, but rather, in the words of one military leader, to return Vietnam to the "Stone Age".

The result is obvious: the ideology of the established and influential scholars in American universities has been consistent with the interests of the corporate ruling class in American society. Instead of acting as critics of government policies, these scholars have voluntarily become agents of those policies. The university has not only failed to counter the power of the military-industrial complex, but it has become a third and essential component of that institutional network. The access of scholars to the circles of power in American society has shaped their world view accordingly. It is not surprising that this access to power should result in the formulation of an ideology by academics which justifies their position and behavior in terms of the general welfare of mankind. Again, to quote Chomsky (1967: 41):

When we strip away the terminology of the behavioral sciences, we see revealed ... the mentality of the colonial civil servant, persuaded of the benevolence of the mother country and the correctness of its visions of world order, and convinced that he understands the true interests of the backward peoples whose welfare he is to administer.

A second factor which supports this world view of academics is the professionalization of university departments. The compartmentalization of subject matter into an infinitely small number of categories has largely precluded scholars from asking questions regarding the total order of their society. The professional is concerned primarily with technique and the empirical uses to which the techniques which he has mastered can be applied. The scientific complexity of these techniques



makes such endeavors respectable. Science becomes something in itself; it is regarded as being above the ethical and emotional concerns of the lay population. The emphasis is on control of both the physical and social domains, and given the prestige accorded to scientific expertise, scholars become the only persons with the ability to manage society and control social change. The very freedom of the individual, which is exalted in the doctrines of American democracy, has been sacrificed for scientific expertise and the interests of the propertied class which it serves. Despite suggestions to the contrary, scholars and their works do not stand above society; the problem is where they stand within society. Thomas R. McConnell (1966:90-91) has concluded:

Some of the dangers of allying the university with government and industry are obvious. Others are subtle ... the values of the academic man have become the values of the marketplace or the governmental arena and not the values of the free intellect. The age of faculty and university affluence has exalted economic advantage at the expense of human and humane values.

Finally, it is important to point out that academics who willingly serve the interests of private capital and the State are not necessarily members of the corporate class. While it is true that many university professors and administrators are representatives of the propertied class in American society (e.g., Columbia University, see Chapter Four), the class origin of individuals is not the crucial determinant of their subsequent life activities and priorities. Of greater importance than the class origins of these academics are the class interests that they serve in their work. One of the dynamics of capitalist societies is that the class system does not totally prevent





individual mobility between classes. Just as universities assist in providing working class children with an ideology consistent with the status quo and middle-class life styles, so too are scholars from the non-propertied classes allowed to enter the domain of university power and affluence. Once incorporated, however, the world view of those individuals will most likely conform to meet the objective role of the university in the larger society. Karl Marx's description of this "socialization" process in capitalist societies remains essentially correct: "the more a ruling class is able to assimilate the most prominent men of the dominated classes, the more stable and dangerous its rule" (cited in Domhoff 1967:4).

In conclusion, this thesis has outlined the role that universities play in legitimizing the monopoly capitalist order in contemporary American society, especially with regard to U.S. military and foreign policy. The structural parameters of the institutional network between the university, the private foundation, and the State have been outlined in Chapters Two, Three and Four. Chapter Five has discussed the importance of ideology in shaping the interests of individual academics who volunteer their "expertise" to maintain and modify this structural order. It has been suggested that the military-university network has compromised not only the academic freedom of intellectuals but has also altered the entire direction of scholarship in American higher education. The objective necessities of this structural order have directly influenced and largely determined the subjective interests of individual scholars. The net effect of these objective and subjective conditions has been correctly summarized by David Horowitz (1969c:42):



... the prostitution of intellect has become so pervasive and profound that all but a small minority mistake it for academic virtue.... Most academics no more perceive the ideological basis of their work.... What may have seemed like an isolated scandal in 1966 (the MSUG Vietnam Project) can now be recognized as a universal condition of organized intellect in America. The saddest part is that academics have become such eager victims. They have internalized the limits placed upon them. They fiercely uphold a strict academic professionalism. But it is no more than expert servitude to oppressive power, to a system whose wages are poverty and blood. They do not see that what they have really embraced is the perverted professionalism of the mercenary and the hired gun.



# APPENDIX I

## MILITARY-SPONSORED FEDERALLY-FUNDED RESEARCH AND DEVELOPMENT CENTERS

<u>Name and State</u>	<u>1967 Federal Expenditures (thousands of dollars)</u>	<u>Sponsoring Agency</u>	<u>Administering Agency</u>
Jet Propulsion Lab* (California)	\$222,169	NASA	Cal Tech
Stanford Linear Accelerator Center (California)	30,891	AEC	Stanford University
Lawrence Radiation Lab (California)	174,661	AEC	University of California
Center for Research in Social Systems (CRESS) (District of Columbia)	1,936	DoD (Army)	American University
Argonne National Lab (Illinois)	97,262	AEC	University of Chicago and Argonne Universities Associa- tion (26 schools)
Ames Laboratory (Iowa)	9,371	AEC	Iowa State University of Science & Technology
Applied Physics Lab (Maryland)	47,172	DoD (Navy)	Johns Hopkins University

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\*Includes amounts subcontracted to industrial firms for performance (1967--\$119 million).





<u>Name and State</u>	<u>1967 Federal Expenditures</u> (thousands of dollars)	<u>Sponsoring Agency</u>	<u>Administering Agency</u>
Cambridge Electron Accelerator (Massachusetts)	6,786 3,596	AEC	Harvard University MIT
Lincoln Laboratory (Massachusetts)	66,989	DoD (Air Force)	MIT
Plasma Physics Lab (New Jersey)	6,572	AEC	Princeton University
Princeton-Pennsylvania Accelerator (New Jersey)	7,971 1,775	AEC	Princeton University University of Pennsylvania
Los Alamos Scientific Lab (New Mexico)	102,213	AEC	University of California
Brookhaven National Lab (New York)	64,160	AEC	Associated Universities, Inc. (9 schools)
Hudson Laboratory (New York)	4,708	DoD (Navy)	Columbia University
Ordnance Research Lab (Pennsylvania)	8,120	DoD (Navy)	Pennsylvania State University
Oak Ridge Associated Universities (Tennessee)	5,620	AEC	Oak Ridge Associated Universities (41 schools)
Human Resources Research Office (HumRRO) (Virginia)	2,853	DoD (Army)	George Washington University



<u>Name and State</u>	<u>1967 Federal Expenditures (thousands of dollars)</u>	<u>Sponsoring Agency</u>	<u>Administering Agency</u>
Space Radiation Effects Lab (Virginia)	1,815	NASA	William and Mary
Applied Physics Lab (Washington)	2,836	DoD (Navy)	University of Washington
Army Mathematics Research Center (Wisconsin)	1,378	DoD (Army)	University of Wisconsin



## APPENDIX II

### THE WAR PROFESSORS

#### University Members: Defense Science Board (1970)

Dr. Robert L. Sproull (Chairman)  
Dr. Gerald F. Tape  
Dr. Harold M. Agnew  
Dr. Daniel Alpert  
Dr. Arthur T. Biehl

Dr. Norris Bradbury  
Dr. Anthony R. Curreri, M.D.

Dr. Alexander H. Flax  
Dr. Martin L. Goldberger  
Professor David T. Griggs

Dr. Gordon J. F. MacDonald

Professor Courtland D. Perkins

Dr. Ithiel de Sola Pool  
Dr. Frederick Seitz

Vice-President and Provost, University of Rochester.  
President of Associated Universities, Inc.  
Weapons Division Leader, Los Alamos Scientific Laboratory.  
Dean, Graduate College, University of Illinois.  
Associate Director of Advanced Studies, Lawrence Radiation Laboratory.

Director, Los Alamos Scientific Laboratory.  
Director, Clinical Oncology and Professor of Surgery,  
University of Wisconsin Medical Schools.  
President, Institute for Defense Analysis.  
Palmer Physical Laboratory, Princeton University.  
Professor of Geophysics, University of California, Los Angeles.

Vice-Chancellor for Research and Graduate Affairs,  
University of California, Santa Barbara.  
Chairman, Department of Aerospace and Mechanical Sciences,  
Princeton University.  
Department of Political Science, MIT.  
President, Rockefeller University.

#### University Members: Army Scientific Advisory Panel

Dr. Harold M. Agnew (Chairman)  
Dean Ralph E. Fadum (Vice-Chairman)

Weapons Division Leader, Los Alamos Scientific Laboratory.  
School of Engineering, North Carolina State University.





Dr. J. D. Baldeschweler  
Dean Kenneth E. Clark  
Dr. Anthony R. Curreri, M.D.

Mr. Antonio Ferri  
Professor David T. Griggs  
Dr. V. S. Haneman, Jr.  
Dr. Yu-Chi, Ho  
Dr. Robert E. Hopkins

Dr. Andrew Longacre  
Professor Rene H. Miller  
Professor Lawrence H. O'Neill

Professor of Chemistry, Stanford University.  
College of Arts and Sciences, University of Rochester.  
Director, Clinical Oncology and Surgery, University of  
Wisconsin Medical Schools.  
Professor of Aerospace Studies, NYU.  
Professor of Geophysics, UCLA.  
Director, Engineering Division, Oklahoma State University.  
Professor of Engineering, Harvard University.  
College of Engineering and Applied Science, University of  
Rochester.  
Professor of Engineering, Syracuse University.  
Department of Aeronautics and Astronautics, MIT.  
Professor of Electrical Engineering, Columbia University.

University Members: Naval Research Advisory Committee

Dr. Harvey Brooks

Dr. W. D. Lewis  
Dr. Carl Pfaffmann  
Professor Roger Revelle

Dr. Frederick Seitz  
Dr. Oswald G. Villard, Jr.  
Dr. E. A. Walker

Dean, Division of Engineering and Applied Physics, Harvard  
University.  
President, Lehigh University.  
Vice-President and Professor, Rockefeller University.  
Director of Center for Population Studies, Harvard  
University.  
President, Rockefeller University.  
Director, Radioscience Laboratory, Stanford University.  
President, Pennsylvania State University.



University Members: Air Force Scientific Advisory Board

Professor Courtland D. Perkins (Chairman)	Chairman, Department of Aerospace and Mechanical Sciences, Princeton University.
Professor Robert H. Cannon, Jr. (Vice-Chairman)	Department of Aeronautics and Astronautics, Stanford University.
Dr. Edward Teller (Vice-Chairman)	Associate Director, Lawrence Radiation Lab.
Professor Holt Ashley	Department of Aeronautics and Astronautics, Stanford University.
Dr. Norman Bailey	School of Medicine, University of California, San Diego.
Dr. Arthur T. Biehl	Associate Director for Advanced Studies, Lawrence Radiation Laboratory.
Dr. Stuart Bondurant, M.D.	Chairman and Professor of Medicine, Albany Medical Center.
Professor Seymour M. Bogdonoff	Head, Gas Dynamics Laboratory, Princeton University.
Dr. Donald Byers	Los Alamos Scientific Laboratory.
Professor John G. Darley	Chairman, Department of Psychology, University of Minnesota.
Professor Eli Ginzberg	Professor of Economics, Columbia University.
Professor David T. Griggs	Professor of Geophysics, UCLA.
Professor Abraham Hertzberg	Professor and Director, Aerospace Center, University of Washington (Seattle).
Professor Marvin R. Holter	Head, Infrared and Optical Sensor Lab, University of Michigan.
Professor Wayne H. Holtzman	Dean, College of Education, University of Texas.
Professor Joseph Kaplan	Professor of Physics, UCLA.
Dr. David M. Kipnis, M.D.	Director, Clinical Research Center, Washington University School of Medicine.
Dr. Harold W. Lewis	Chairman, Physics Department, University of California, Santa Barbara.
Dr. Robert G. Loewy	Dean, College of Engineering, University of Rochester.
Professor Rene Miller	Department of Aeronautics and Astronautics, MIT.



Dr. Lysle H. Peterson, M.D.  
Professor Edward B. Roberts  
Dr. Robert N. Thorn  
Dr. Robert D. Turner  
Dr. Oswald G. Villard, Jr.  
Dr. Willard H. Wattenberg

Director, Bockus Research Institute, University of Pennsylvania.  
Associate Professor of Management, MIT School of Management.  
Los Alamos Scientific Laboratory.  
Assistant to the President, IDA.  
Director, Radioscience Lab, Stanford University.  
President, Berkeley Scientific Laboratory.

President's Science Advisory Committee Members

Dr. Lee A. DuBridge (Chairman)  
John D. Baldeschwieler  
Soloman J. Buchsbaum  
Theodore L. Cairns  
James S. Coleman  
Michael Ference, Jr.  
Va. F. Fitch  
James C. Fletcher  
Richard L. Garwin  
Murray Gell-Mann  
Patrick E. Haggerty  
Philip Handler  
Herbert A. Simon  
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